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<151> 1999-12-07

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Glu Ala Met Ala Asp Asn Glu Leu Ser Val Leu Gly Asp Phe Asp Asp
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Asn Phe Lys Asp Leu Ser Leu Leu Val Val Gln Val Thr Arg Phe Thr
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Cys Gly Gly Phe Val Val Gly Val Ser Phe His His Gly Val Cys Asp
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Gly Arg Gly Ala Ala Gln Phe Leu Lys Gly Leu Ala Glu Met Ala Arg
          100   105   110

Gly Glu Val Lys Leu Ser Leu Glu Pro Ile Trp Asn Met Glu Leu Val
          115   120   125

Lys Leu Asp Asp Pro Lys Tyr Leu Gln Phe Phe His Phe Glu Phe Leu
      130   135   140

Arg Ala Pro Ser Ile Val Glu Lys Ile Val Gln Thr Tyr Phe Ile Ile
145   150   155   160

Asp Leu Glu Thr Ile Asn Tyr Ile Lys Gln Ser Val Met Glu Glu Cys
              165   170   175

Lys Glu Phe Cys Ser Ser Phe Glu Val Ala Ser Ala Met Thr Trp Ile
          180   185   190

Ala Arg Thr Arg Ala Phe Gln Ile Pro Glu Ser Glu Tyr Val Lys Ile
          195   200   205

Leu Phe Gly Met Asp Met Arg Asn Ser Phe Asn Pro Pro Leu Pro Ser
      210   215   220

Gly Tyr Tyr Gly Asn Ser Ile Gly Thr Ala Cys Ala Val Asp Asn Val
225   230   235   240

Gln Asp Leu Leu Ser Gly Ser Leu Leu Arg Ala Ile Met Ile Ile Lys
              245   250   255

Lys Ser Lys Val Ser Leu Asn Asp Asn Phe Lys Ser Arg Ala Val Val
          260   265   270

Lys Pro Ser Glu Leu Asp Val Asn Met Asn His Glu Asn Val Val Ala
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             20                  25                  30

Glu Ala Met Ala Asp Asn Asp Leu Ser Val Leu Gln Asp Phe Asn Glu
         35                  40                  45

Tyr Asp Pro Ser Phe Gln Gln Leu Val Phe Tyr Leu Pro Glu Asp Val
     50                  55                  60

Asn Ile Glu Asp Leu His Leu Leu Thr Val Gln Val Thr Arg Phe Thr
 65                  70                  75                  80

Cys Gly Gly Phe Val Val Gly Thr Arg Phe His His Ser Val Ser Asp
                 85                  90                  95

Gly Lys Gly Ile Gly Gln Leu Leu Lys Gly Met Gly Glu Met Ala Arg
            100                 105                 110

Gly Glu Phe Lys Pro Ser Leu Glu Pro Ile Trp Asn Arg Glu Met Val
        115                 120                 125

Lys Pro Glu Asp Ile Met Tyr Leu Gln Phe Asp His Phe Asp Phe Ile
    130                 135                 140

His Pro Pro Leu Asn Leu Glu Lys Ser Ile Gln Ala Ser Met Val Ile
145                 150                 155                 160

Ser Leu Glu Arg Ile Asn Tyr Ile Lys Arg Cys Met Met Glu Glu Cys
                165                 170                 175

Lys Glu Phe Phe Ser Ala Phe Glu Val Val Val Ala Leu Ile Trp Leu
            180                 185                 190

Ala Arg Thr Lys Ser Phe Arg Ile Pro Pro Asn Glu Tyr Val Lys Ile
        195                 200                 205

Ile Phe Pro Ile Asp Met Arg Asn Ser Phe Asp Ser Pro Leu Pro Lys
    210                 215                 220

Gly Tyr Tyr Gly Asn Ala Ile Gly Asn Ala Cys Ala Met Asp Asn Val
225                 230                 235                 240
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Lys Asp Leu Leu Asn Gly Ser Leu Leu Tyr Ala Leu Met Leu Ile Lys
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Lys Ser Lys Phe Ala Leu Asn Glu Asn Phe Lys Ser Arg Ile Leu Thr
            260   265   270

Lys Pro Ser Ala Leu Asp Ala Asn Met Lys His Glu Asn Val Val Gly
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Asp Ser Asp Leu Ser Val Leu Thr Asp Leu Asp Asp Tyr Lys Pro Ser
            35   40   45

Phe Gln Gln Leu Ile Phe Ser Leu Pro Gln Asp Thr Asp Ile Glu Asp
            50   55   60

Leu His Leu Leu Ile Val Gln Val Thr Arg Phe Thr Cys Gly Gly Phe
65   70   75   80

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Val Val Gly Ala Asn Val Tyr Ser Ser Val Cys Asp Ala Lys Gly Phe
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Gly Gln Phe Leu Gln Gly Met Ala Glu Met Ala Arg Gly Glu Val Lys
        100   105   110

Pro Ser Ile Glu Pro Ile Trp Asn Arg Glu Leu Val Lys Pro Glu His
        115   120   125

Cys Met Pro Phe Arg Met Ser His Leu Gln Ile Ile His Ala Pro Leu
    130   135   140

Ile Glu Glu Lys Phe Val Gln Thr Ser Leu Val Ile Asn Phe Glu Ile
145   150   155   160

Ile Asn His Ile Arg Gln Arg Ile Met Glu Glu Cys Lys Glu Ser Phe
            165   170   175

Ser Ser Phe Glu Ile Val Ala Ala Leu Val Trp Leu Ala Lys Ile Lys
        180   185   190

Ala Phe Gln Ile Pro His Ser Glu Asn Val Lys Leu Leu Phe Ala Met
        195   200   205

Asp Leu Arg Arg Ser Phe Asn Pro Pro Leu Pro His Gly Tyr Tyr Gly
    210   215   220

Asn Ala Phe Gly Ile Ala Cys Ala Met Asp Asn Val His Asp Leu Leu
225   230   235   240

Ser Gly Ser Leu Leu Arg Ala Ile Met Ile Ile Lys Lys Ser Lys Phe
            245   250   255

Ser Leu His Lys Glu Leu Asn Ser Lys Thr Val Met Ser Pro Ser Val
            260   265   270

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Asp Ser Asp Val Ser Val Leu Thr Asp Leu Glu Asp Tyr Asn Pro Ser
        35   40   45

Phe Gln Gln Leu Leu Phe Ser Leu Pro Gln Asp Thr Asp Ile Glu Asp
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Leu His Leu Leu Ile Val Gln Val Thr His Phe Thr Cys Gly Asp Phe
65   70   75   80

Val Val Gly Ala Asn Val Tyr Gly Ser Val Cys Asp Gly Lys Gly Phe
                85   90   95

Gly Gln Phe Leu Gln Gly Met Ala Glu Met Ala Arg Gly Glu Val Lys
                100   105   110

Pro Ser Ile Glu Pro Ile Trp Asn Arg Glu Leu Val Lys Pro Glu Asp
            115   120   125

Leu Met Ala Leu His Val Asp His Leu Arg Ile Ile His Thr Pro Leu
        130   135   140

Ile Glu Glu Lys Phe Val Gln Thr Ser Leu Val Ile Asn Phe Glu Ile
145   150   155   160

Ile Asn His Ile Arg Arg Cys Ile Met Glu Glu Cys Lys Glu Ser Phe
                165   170   175

Ser Ser Phe Glu Ile Val Ala Ala Leu Val Trp Leu Ala Lys Ile Lys
                180   185   190

Ala Phe Arg Ile Pro His Ser Glu Asn Val Lys Ile Leu Phe Ala Met
            195   200   205

Asp Val Arg Arg Ser Phe Lys Pro Pro Leu Pro Lys Gly Tyr Tyr Gly
        210   215   220

Asn Ala Tyr Gly Ile Ala Cys Ala Met Asp Asn Val Gln Asp Leu Leu
225   230   235   240

Ser Gly Ser Leu Leu His Ala Ile Met Ile Ile Lys Lys Ser Lys Phe
                245   250   255

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Ser Leu His Lys Lys Ile Asn Ser Lys Thr Val Met Ser Pro Ser Pro
            260   265   270

Leu Asp Val Asn Met Lys Phe Glu Asn Val Val Ser Ile Thr Asp Trp
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            20   25   30

Asp Asn Asp Leu Ser Ala Val Arg Asp Leu Asp Glu Tyr Asn Pro Leu
            35   40   45

Phe Arg Gln Leu Gln Ser Thr Leu Pro Leu Asp Thr Asp Cys Lys Asp
        50   55   60

Leu His Leu Met Thr Val Gln Val Thr Arg Phe Thr Cys Gly Gly Phe
 65   70   75   80

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Val Met Gly Thr Ser Val His Gln Ser Ile Cys Asp Gly Asn Gly Leu
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Gly Gln Phe Phe Lys Ser Met Ala Glu Met Val Arg Gly Glu Val Lys
                100   105   110

Pro Ser Ile Glu Pro Val Trp Asn Arg Glu Leu Val Lys Pro Glu Asp
                115   120   125

Tyr Ile His Leu Gln Leu Tyr Ile Gly Glu Phe Ile Arg Pro Pro Leu
        130   135   140

Ala Phe Glu Lys Val Gly Gln Thr Ser Leu Ile Ile Ser Phe Glu Lys
145   150   155   160

Ile Asn His Ile Lys Arg Cys Ile Met Glu Glu Ser Lys Glu Ser Phe
                165   170   175

Ser Ser Phe Glu Ile Val Thr Ala Leu Val Trp Leu Ala Arg Thr Arg
                180   185   190

Ala Phe Gln Ile Pro His Asn Glu Asp Val Thr Leu Leu Leu Ala Met
        195   200   205

Asp Ala Arg Arg Ser Phe Asp Pro Pro Ile Pro Lys Gly Tyr Tyr Gly
    210   215   220

Asn Val Ile Gly Thr Ala Cys Ala Thr Asn Asn Val His Asn Leu Leu
225   230   235   240

Ser Gly Ser Leu Leu His Ala Leu Thr Ile Ile Lys Lys Ser Met Ser
                245   250   255

Ser Phe Tyr Glu Asn Ile Thr Ser Arg Val Leu Val Asn Pro Ser Thr
                260   265   270

Leu Asp Leu Ser Met Lys Tyr Glu Asn Val Val Thr Ile Ser Asp Trp
            275   280   285

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Asp Thr Asp Leu Ser Val Leu Gly Asp Leu Asp Asp Tyr Ser Pro Ser
         35                  40                  45

Leu Glu Gln Leu Leu Phe Cys Leu Pro Pro Asp Thr Asp Ile Glu Asp
     50                  55                  60

Ile His Pro Leu Val Val Gln Val Thr Arg Phe Thr Cys Gly Gly Phe
 65              70                  75                  80

Val Val Gly Val Ser Phe Cys His Gly Ile Cys Asp Gly Leu Gly Ala
                 85                  90                  95

Gly Gln Phe Leu Ile Ala Met Gly Glu Met Ala Arg Gly Glu Ile Lys
             100                 105                 110

Pro Ser Ser Glu Pro Ile Trp Lys Arg Glu Leu Leu Lys Pro Glu Asp
         115                 120                 125

Pro Leu Tyr Arg Phe Gln Tyr Tyr His Phe Gln Leu Ile Cys Pro Pro
     130                 135                 140

Ser Thr Phe Gly Lys Ile Val Gln Gly Ser Leu Val Ile Thr Ser Glu
145                 150                 155                 160

Thr Ile Asn Cys Ile Lys Gln Cys Leu Arg Glu Glu Ser Lys Glu Phe
                 165                 170                 175

Cys Ser Ala Phe Glu Val Val Ser Ala Leu Ala Trp Ile Ala Arg Thr
                 180                 185                 190

Arg Ala Leu Gln Ile Pro His Ser Glu Asn Val Lys Leu Ile Phe Ala
             195                 200                 205

Met Asp Met Arg Lys Leu Phe Asn Pro Pro Leu Ser Lys Gly Tyr Tyr
     210                 215                 220

Gly Asn Phe Val Gly Thr Val Cys Ala Met Asp Asn Val Lys Asp Leu
225                 230                 235                 240

Leu Ser Gly Ser Leu Leu Arg Val Val Arg Ile Ile Lys Lys Ala Lys
                 245                 250                 255

Val Ser Leu Asn Glu His Phe Thr Ser Thr Ile Val Thr Pro Arg Ser
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                260   265   270

Gly Ser Asp Glu Ser Ile Asn Tyr Glu Asn Ile Val Gly Phe Gly Asp
        275   280   285

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gatgtagttt caattagtga ttggaggcat tctatatatt atgaagtgga ctttggctgg 960
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<210> 14
<211> 322
<212> PRT
<213> Taxus cuspidata

<400> 14
Phe Tyr Pro Phe Ala Gly Arg Leu Arg Asn Lys Glu Asn Gly Glu Leu
  1   5   10   15

Glu Val Glu Cys Thr Gly Gln Gly Val Leu Phe Leu Glu Ala Met Ala
            20   25   30

Asp Ser Asp Leu Ser Val Leu Thr Asp Leu Asp Asn Tyr Asn Pro Ser
        35   40   45

Phe Gln Gln Leu Ile Phe Ser Leu Pro Gln Asp Thr Asp Ile Glu Asp
    50   55   60

Leu His Leu Leu Ile Val Gln Val Thr Arg Phe Thr Cys Gly Gly Phe
65   70   75   80

Val Val Gly Ala Asn Val Tyr Gly Ser Thr Cys Asp Ala Lys Gly Phe
                85   90   95

Gly Gln Phe Leu Gln Gly Met Ala Glu Met Ala Arg Gly Glu Val Lys
            100   105   110

10

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Pro Ser Ile Glu Pro Ile Trp Asn Lys Arg Thr Gly Glu Ala Arg Arg
        115             120             125

Glu Val Lys Pro Ser Ile Glu Pro Ile Trp Asn Lys Arg Thr Gly Glu
        130             135             140

Ala Arg Arg Leu Tyr Ala Leu Ser Gly Met Ser His Leu Gln Ile Ile
145             150             155             160

His Ala Pro Val Ile Glu Glu Lys Phe Val Gln Thr Ser Leu Val Ile
            165             170             175

Asn Phe Glu Ile Ile Asn His Ile Arg Arg Arg Ile Met Glu Glu Cys
        180             185             190

Lys Glu Ser Leu Ser Ser Phe Glu Ile Val Ala Ala Leu Val Trp Leu
        195             200             205

Ala Lys Ile Lys Ala Phe Gln Ile Pro His Ser Glu Asn Val Lys Leu
        210             215             220

Leu Phe Ala Met Asp Leu Arg Arg Ser Phe Asn Pro Pro Leu Pro His
225             230             235             240

Gly Tyr Tyr Gly Asn Ala Phe Gly Ile Ala Cys Ala Met Asp Asn Val
            245             250             255

His Asp Leu Leu Ser Gly Ser Leu Leu Arg Thr Ile Met Ile Ile Lys
        260             265             270

Lys Ser Lys Phe Ser Leu His Lys Glu Leu Asn Ser Lys Thr Val Met
        275             280             285

Ser Ser Ser Val Val Asp Val Asn Thr Lys Phe Glu Asp Val Val Ser
        290             295             300

Ile Ser Asp Trp Arg His Ser Ile Tyr Tyr Glu Val Asp Phe Gly Trp
305             310             315             320

Gly Lys


<210> 15
<211> 908
<212> DNA
<213> Taxus cuspidata

<400> 15
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gatttggatg ctcataatcc ttcatttcac cagctttctg tttcacctcc agtggattct 180
gatattgagg gcctccatct tgcagctctt caggtaactc gttttacatg tggggggtttt 240
gttctaggag taagtttgaa ccaaagtgtg tgcgatggaa aaggattggg aaattttctt 300
aaaggtgtgg cagagatggt gaggggaaaa gataagccct caattgaacc agtatggaat 360
agagaaatgg taaagtttga agactataca cgcctccaat tttatcacca tgaattcata 420
caaccacctt aatagatga gaaaattgtt caaaaatctc ttgttataaa cttggagaca 480
ataaatatta tcaaacgatg tattatggaa gaatatacaa aattttctc tacattcgaa 540
atcgtagcag caatggtttg ctagcaaga acaaaagctt tcaaaattcc acatagtgaa 600
aatgcagagc ttctctttac aatggatatg aggggaatcat ttaatccccc tcttccaaag 660
ggatactatg gtaatgttat gggtatagta tgtgcattgg ataatgtcaa acacctatta 720
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11

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agtggatcta ttttgcgtgc tgcaatggtt atacagaaat caaggttttt ctttacagag 780
aatttccggt taagatctat gacacaacca tctgcattga ctgtgaagat caagcacaaa 840
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<210> 16
<211> 302
<212> PRT
<213> Taxus cuspidata

<400> 16

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Phe Tyr Pro Phe Ala Gly Arg Leu Arg Asn Lys Glu Asn Gly Asp Leu
 1               5                  10                  15

Glu Val Glu Cys Thr Gly Glu Gly Ala Val Phe Val Glu Ala Met Ala
                20                  25                  30

Asp Thr Asp Leu Ser Ser Leu Gly Asp Leu Asp Ala His Asn Pro Ser
         35                  40                  45

Phe His Gln Leu Ser Val Ser Pro Pro Val Asp Ser Asp Ile Glu Gly
     50                  55                  60

Leu His Leu Ala Ala Leu Gln Val Thr Arg Phe Thr Cys Gly Gly Phe
 65                  70                  75                  80

Val Leu Gly Val Ser Leu Asn Gln Ser Val Cys Asp Gly Lys Gly Leu
                85                  90                  95

Gly Asn Phe Leu Lys Gly Val Ala Glu Met Val Arg Gly Lys Asp Lys
            100                 105                 110

Pro Ser Ile Glu Pro Val Trp Asn Arg Glu Met Val Lys Phe Glu Asp
        115                 120                 125

Tyr Thr Arg Leu Gln Phe Tyr His His Glu Phe Ile Gln Pro Pro Leu
    130                 135                 140

Ile Asp Glu Lys Ile Val Gln Lys Ser Leu Val Ile Asn Leu Glu Thr
145                 150                 155                 160

Ile Asn Ile Ile Lys Arg Cys Ile Met Glu Glu Tyr Thr Lys Phe Phe
                165                 170                 175

Ser Thr Phe Glu Ile Val Ala Ala Met Val Trp Leu Ala Arg Thr Lys
            180                 185                 190

Ala Phe Lys Ile Pro His Ser Glu Asn Ala Glu Leu Leu Phe Thr Met
            195                 200                 205

Asp Met Arg Glu Ser Phe Asn Pro Pro Leu Pro Lys Gly Tyr Tyr Gly
        210                 215                 220

Asn Val Met Gly Ile Val Cys Ala Leu Asp Asn Val Lys His Leu Leu
225                 230                 235                 240

Ser Gly Ser Ile Leu Arg Ala Ala Met Val Ile Gln Lys Ser Arg Phe
                245                 250                 255

Phe Phe Thr Glu Asn Phe Arg Leu Arg Ser Met Thr Gln Pro Ser Ala
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12

Leu Thr Val Lys Ile Lys His Lys Asn Val Val Ala Cys Ser Asp Trp
        275   280   285

Arg Gln Tyr Gly Tyr Asp Glu Val Asp Phe Gly Trp Gly Lys
    290   295   300

<210> 17
<211> 908
<212> DNA
<213> Taxus cuspidata

<400> 17
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ggttttgatt accacaatcc agcatttggg aagctacttt actcactacc actggatacc 180
cctattcacg acctccatcc tctggttgtt caggtaactc gttttacctg cggggggttt 240
gttgtgggat taagtttgga ccatactata tgtgatggac gtggtgcagg tcaatttctt 300
aaagccctag cagaratggc gaggggagag gctaagccct cattggaacc aatatggaat 360
agagagttgt tgaagcccga agaccttata cgcctgcaat tttatcactt tgaatcgatg 420
cgtccacctc caatagttga agaaatggtt caatcatcta ttattataaa tgctgagaca 480
ataagtaata tsaaacaata cattatggaa gaatgtaaag aatcttgttc tgcatttgat 540
gtcgtaggag gattggcttg gctagccagg acaaaggctt ttcaaattcc acatacagag 600
aatgtgatgg ttattttttgc agtggatgcg aggagatcat ttgatccacc acttccaaag 660
ggttactatg gtaatgtcgt tggtaatgca tgtgcattgg ataatgttca agacctctta 720
aatggatctc ttttgcgtgc tacaatgatt ataaagaaat caaaggtatc tttaaaagag 780
aatataaggg caaaaacttt gacgatacca tctatagtag atgtgaatgt gaaacatgaa 840
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<210> 18
<211> 302
<212> PRT
<213> Taxus cuspidata

<220>
<221> VARIANT
<222> 164
<223> Any amino acid

<400> 18
Phe Tyr Pro Phe Ala Gly Arg Met Arg Asn Lys Gly Asp Gly Glu Leu
    1   5   10   15

Glu Val Asp Cys Thr Gly Glu Gly Ala Leu Phe Val Glu Ala Met Ala
            20   25   30

Asp Asp Asn Leu Ser Val Leu Gly Gly Phe Asp Tyr His Asn Pro Ala
        35   40   45

Phe Gly Lys Leu Leu Tyr Ser Leu Pro Leu Asp Thr Pro Ile His Asp
    50   55   60

Leu His Pro Leu Val Val Gln Val Thr Arg Phe Thr Cys Gly Gly Phe
65   70   75   80

Val Val Gly Leu Ser Leu Asp His Thr Ile Cys Asp Gly Arg Gly Ala
                85   90   95

Gly Gln Phe Leu Lys Ala Leu Ala Glu Met Ala Arg Gly Glu Ala Lys
          100   105   110

Pro Ser Leu Glu Pro Ile Met Asn Arg Glu Leu Leu Lys Pro Glu Asp
          115   120   125

Leu Ile Arg Leu Gln Phe Tyr His Phe Glu Ser Met Arg Pro Pro Pro
     130   135   140

Ile Val Glu Glu Met Val Gln Ser Ser Ile Ile Ile Asn Ala Glu Thr
145   150   155   160

Ile Ser Asn Xaa Lys Gln Tyr Ile Met Glu Glu Cys Lys Glu Ser Cys
              165   170   175

Ser Ala Phe Asp Val Val Gly Gly Leu Ala Met Leu Ala Arg Thr Lys
          180   185   190

Ala Phe Gln Ile Pro His Thr Glu Asn Val Met Val Ile Phe Ala Val
          195   200   205

Asp Ala Arg Arg Ser Phe Asp Pro Pro Leu Pro Lys Gly Tyr Tyr Gly
     210   215   220

Asn Val Val Gly Asn Ala Cys Ala Leu Asp Asn Val Gln Asp Leu Leu
225   230   235   240

Asn Gly Ser Leu Leu Arg Ala Thr Met Ile Ile Lys Lys Ser Lys Val
              245   250   255

Ser Leu Lys Glu Asn Ile Arg Ala Lys Thr Leu Thr Ile Pro Ser Ile
          260   265   270

Val Asp Val Asn Val Lys His Glu Asn Ile Val Gly Leu Gly Asp Leu
          275   280   285

Arg Arg Leu Gly Phe Asn Glu Val Asp Phe Gly Trp Gly Lys
     290   295   300

<210> 19
<211> 911
<212> DNA
<213> Taxus cuspidata

<400> 19
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gatctggatg acctcaatcc atcatttcag cagttagttt tttggcatcc attggacact 180
gctattgagg atcttcatct tgtgattgtt caggtaacac gttttacatg tgggggcatt 240
gccgttggag tgactttgcc ccatagtgta tgtgatggac gtggagcacc ccagtttgtt 300
acagcactgg cagaaatggc gaggggagag gttaagccct tattagaacc aatatgggaat 360
agagaattgt tgaaccctga agaccctcta catctccagt taaatcaatt tgattcgata 420
tgcccacctc caatgctcga ggaattgggt caagcttctt ttgttataaa tgttgacacc 480
atagaatata tgaaacaatg tgttatggag gaatgtaatg attttttgttc gtcctttgaa 540
gtagtggcag cattggtttg gatagcaagg acaaaggctc ttcaaattcc acatactgag 600
aatgtgaagc ttctctttgc gatggatttg aggaaattat ttaatccccc acttccaaat 660
ggatattatg gtaatgccat ggtactgca tatgcaatgg ataatgtcca agacctctta 720
aatggatctc ttttgcgtgc tataatgatt ataaaaaaag caaaggctga tttaaaagat 780
aattattcga ggtcaagggt agttacaaac ccaaattcat tagatgtgaa caagaaatcc 840

aacaacattc ttgcattgag tgactggagg cggttgggat tttatgaagc cgattttggc 900
tggggcaagc c   911

<210> 20
<211> 303
<212> PRT
<213> Taxus cuspidata

<400> 20
Tyr Tyr Pro Leu Ala Gly Arg Leu Arg Ser Lys Glu Ile Gly Glu Leu
 1   5   10   15

Glu Val Glu Cys Thr Gly Asp Gly Ala Leu Phe Val Glu Ala Met Val
             20   25   30

Glu Asp Thr Ile Ser Val Leu Arg Asp Leu Asp Asp Leu Asn Pro Ser
         35   40   45

Phe Gln Gln Leu Val Phe Trp His Pro Leu Asp Thr Ala Ile Glu Asp
     50   55   60

Leu His Leu Val Ile Val Gln Val Thr Arg Phe Thr Cys Gly Gly Ile
 65   70   75   80

Ala Val Gly Val Thr Leu Pro His Ser Val Cys Asp Gly Arg Gly Ala
                 85   90   95

Pro Gln Phe Val Thr Ala Leu Ala Glu Met Ala Arg Gly Glu Val Lys
             100   105   110

Pro Leu Leu Glu Pro Ile Trp Asn Arg Glu Leu Leu Asn Pro Glu Asp
         115   120   125

Pro Leu His Leu Gln Leu Asn Gln Phe Asp Ser Ile Cys Pro Pro Pro
     130   135   140

Met Leu Glu Glu Leu Gly Gln Ala Ser Phe Val Ile Asn Val Asp Thr
145   150   155   160

Ile Glu Tyr Met Lys Gln Cys Val Met Glu Glu Cys Asn Asp Phe Cys
                 165   170   175

Ser Ser Phe Glu Val Val Ala Ala Leu Val Trp Ile Ala Arg Thr Lys
             180   185   190

Ala Leu Gln Ile Pro His Thr Glu Asn Val Lys Leu Leu Phe Ala Met
             195   200   205

Asp Leu Arg Lys Leu Phe Asn Pro Pro Leu Pro Asn Gly Tyr Tyr Gly
     210   215   220

Asn Ala Ile Gly Thr Ala Tyr Ala Met Asp Asn Val Gln Asp Leu Leu
225   230   235   240

Asn Gly Ser Leu Leu Arg Ala Ile Met Ile Ile Lys Lys Ala Lys Ala
                 245   250   255

Asp Leu Lys Asp Asn Tyr Ser Arg Ser Arg Val Val Thr Asn Pro Asn
             260   265   270

15

Ser Leu Asp Val Asn Lys Lys Ser Asn Asn Ile Leu Ala Leu Ser Asp
    275   280   285

Trp Arg Arg Leu Gly Phe Tyr Glu Ala Asp Phe Gly Trp Gly Lys
    290   295   300

<210> 21
<211> 911
<212> DNA
<213> Taxus cuspidata

<400> 21
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gatctggatg acctcaatcc atcatttcag cagttagttt tttggcatcc attggacact 180
gctattgagg atcttcatct tgtgattgtt caggtaacac gttttacatg tggggggcatt 240
gccgttggag tgactttgcc ccatagtgta tgtgatggac gtggagcacc ccagtttgtt 300
acagcactgg cagaaatggc gaggggagag gttaagccct tattagaacc aatatggaat 360
agagaattgt tgaaccctga agaccctcta catctccagt taaatcaatt tgattcgata 420
tgcccacctc caatgctcga ggaattgggt caagcttctt ttgttataaa tgttgacacc 480
atagaatata tgaaacaatg tgttatggag gaatgtaatg attttttgttc gtcctttgaa 540
gtagtggcag cattggtttg gatagcaagg acaaaggctc ttcaaattcc acatactgag 600
aatgtgaagc ttctcttttgc gatggatttg aggaaattat ttaatccccc acttccaaat 660
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aattattcga ggtcaagggt agttacaaac ccaaattcat tagatgtgaa caagaaatcc 840
aacaacattc ttgcattgag tgactggagg cggttgggat tttatgaagc cgattttggc 900
tggggcaagc c   911

<210> 22
<211> 306
<212> PRT
<213> Taxus cuspidata

<400> 22
Tyr Tyr Pro Leu Ala Gly Arg Leu Glu Thr Cys Asp Gly Met Val Tyr
  1   5   10   15

Ile Asp Cys Asn Asp Lys Gly Ala Glu Phe Ile Glu Ala Tyr Ala Ser
            20   25   30

Pro Glu Leu Gly Val Ala Glu Ile Met Ala Asp Ser Phe Pro His Gln
        35   40   45

Ile Phe Ala Phe Asn Gly Val Leu Asn Ile Asp Gly His Phe Met Pro
    50   55   60

Leu Leu Ala Val Gln Ala Thr Lys Leu Lys Asp Gly Ile Ala Leu Ala
 65   70   75   80

Ile Thr Val Asn His Ala Val Ala Asp Ala Thr Ser Val Trp His Phe
                85   90   95

Ile Ser Ser Trp Ala Gln Leu Cys Lys Glu Pro Ser Asn Ile Pro Leu
            100   105   110

Leu Pro Leu His Thr Arg Cys Phe Thr Thr Ile Ser Pro Ile Lys Leu
        115   120   125

16

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Asp Ile Gln Tyr Ser Ser Thr Thr Thr Glu Ser Ile Asp Asn Phe Phe
    130             135             140

Pro Pro Pro Leu Thr Glu Lys Ile Phe His Phe Ser Gly Lys Thr Ile
145             150             155             160

Ser Arg Leu Lys Glu Glu Ala Met Glu Ala Cys Lys Asp Lys Ser Ile
                165             170             175

Ser Ile Ser Ser Phe Gln Ala Leu Cys Gly His Leu Trp Gln Ser Ile
        180             185             190

Thr Arg Ala Arg Gly Leu Ser Pro Ser Glu Pro Thr Thr Ile Lys Ile
        195             200             205

Ala Val Asn Cys Arg Pro Arg Ile Val Pro Pro Leu Pro Asn Ser Tyr
    210             215             220

Phe Gly Asn Ala Val Gln Val Val Asp Val Thr Met Thr Thr Glu Glu
225             230             235             240

Leu Leu Gly Asn Gly Gly Ala Cys Ala Ala Leu Ile Leu His Gln Lys
            245             250             255

Ile Ser Ala His Gln Asp Thr Gln Ile Arg Ala Glu Leu Asp Lys Pro
        260             265             270

Pro Lys Ile Val His Thr Asn Asn Leu Ile Pro Cys Asn Ile Ile Ala
        275             280             285

Met Ala Gly Ser Pro Arg Phe Pro Ile Tyr Asn Asn Asp Phe Gly Trp
    290             295             300

Gly Lys
305


<210> 23
<211> 908
<212> DNA
<213> Taxus cuspidata

<400> 23
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gatttggatg cccaaaatgc atcttatgag cagttgctct tttcgcttcc gcccaataca 180
caggttcagg acctccatcc tctgattctt caggtaactc gttttaaatg tggaggtttt 240
gttgtgggag ttggtttcca ccatagtata tgtgacgcac gaggaggaac tcaatttctt 300
ctaggcctag cagatatggc aaggggagag actaagcctt tagtggaacc agtatggaat 360
agagaactga taaaccctga agatctaatg cacctccaat tcataagtt tggtttgata 420
cgccaacctc taaaacttga tgaaatttgt caagcatctt ttactataaa ctcaaagata 480
ataaattaca tcaaacaatg tgttatagaa gaatgtaatg aaattttctc tgcatttgaa 540
gttgtagtag cattaacttg gatagcaagg acaaaggctt ttcaaattcc acatagtgag 600
aatgtgatga tgctctttgg aatggacgcg aggaaatatt ttaatccccc acttccaaag 660
ggatattatg gtaatgccat ggtacttca tgtgtaattg aaaatgtaca agacctctta 720
aatggatctc tttcgcgtgc tgtaatgatc acaaagaaat caaaggtccc tttaattgag 780
aatttaaggt caagaattgt ggcgaaccaa tctggagtag atgaggaaat taagcatgaa 840
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ggcaagcc                                                        908


17
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<210> 24
<211> 302
<212> PRT
<213> Taxus cuspidata

<400> 24
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Phe Tyr Pro Phe Ala Gly Arg Ile Arg Gln Lys Glu Asn Glu Glu Leu
 1               5                  10                  15

Glu Val Glu Cys Thr Gly Glu Gly Ala Leu Phe Val Glu Ala Val Val
            20                  25                  30

Asp Asn Asp Leu Ser Val Leu Lys Asp Leu Asp Ala Gln Asn Ala Ser
        35                  40                  45

Tyr Glu Gln Leu Leu Phe Ser Leu Pro Pro Asn Thr Gln Val Gln Asp
     50                  55                  60

Leu His Pro Leu Ile Leu Gln Val Thr Arg Phe Lys Cys Gly Gly Phe
 65                  70                  75                  80

Val Val Gly Val Gly Phe His His Ser Ile Cys Asp Ala Arg Gly Gly
                85                  90                  95

Thr Gln Phe Leu Leu Gly Leu Ala Asp Met Ala Arg Gly Glu Thr Lys
            100                 105                 110

Pro Leu Val Glu Pro Val Trp Asn Arg Glu Leu Ile Asn Pro Glu Asp
            115                 120                 125

Leu Met His Leu Gln Phe His Lys Phe Gly Leu Ile Arg Gln Pro Leu
        130                 135                 140

Lys Leu Asp Glu Ile Cys Gln Ala Ser Phe Thr Ile Asn Ser Lys Ile
145                 150                 155                 160

Ile Asn Tyr Ile Lys Gln Cys Val Ile Glu Glu Cys Asn Glu Ile Phe
                165                 170                 175

Ser Ala Phe Glu Val Val Val Ala Leu Thr Trp Ile Ala Arg Thr Lys
            180                 185                 190

Ala Phe Gln Ile Pro His Ser Glu Asn Val Met Met Leu Phe Gly Met
        195                 200                 205

Asp Ala Arg Lys Tyr Phe Asn Pro Pro Leu Pro Lys Gly Tyr Tyr Gly
    210                 215                 220

Asn Ala Ile Gly Thr Ser Cys Val Ile Glu Asn Val Gln Asp Leu Leu
225                 230                 235                 240

Asn Gly Ser Leu Ser Arg Ala Val Met Ile Thr Lys Lys Ser Lys Val
            245                 250                 255

Pro Leu Ile Glu Asn Leu Arg Ser Arg Ile Val Ala Asn Gln Ser Gly
            260                 265                 270

Val Asp Glu Glu Ile Lys His Glu Asn Val Val Gly Phe Gly Asp Trp
            275                 280                 285

Arg Arg Leu Gly Phe His Glu Val Asp Phe Gly Trp Gly Lys
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<210> 25
<211> 1320
<212> DNA
<213> Taxus cuspidata

<400> 25
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ttatcagtct acaatgcctc ccagagagtt tctgtttctg cagatcctgc aaaaacaatt 180
cgagaggctc tctccaaggt gctggtttat tatccccctt ttgctggaag gctgagaaac 240
acagaaaatg gggatcttga agtggagtgc acaggggagg gtgccgtctt tgtggaagcc 300
atggcggaca cgacctttca gtattacaa gatttcaatg agtacgatcc atcatttcag 360
cagctagttt ttaatcttcg agaggatgtc aatattgagg acctccatct tctaactgtt 420
caggtaactc gttttacatg tggaggattt gttgtgggca caagattcca ccatagtgta 480
tctgatggaa aaggaatcgg ccagttactt aaaggcatgg gagagatggc aaggggggag 540
tttaagccct cgttagaacc aatatggaat agagaaatgg tgaagcctga agacattatg 600
tacctccagt ttgatcactt tgatttcata cacccacctc ttaatcttga gaagtctatt 660
caagcatcta tggtaataag ctttgagaga ataaattata tcaaacgatg catgatggaa 720
gaatgcaaag aatttttttc tgcatttgaa gttgtagtag cattgatttg gctggcaagg 780
acaaagtctt ttcgaattcc acccaatgag tatgtgaaaa ttatctttcc aatcgacatg 840
aggaattcat ttgactcccc tcttccaaag ggatactatg gtaatgctat tggtaatgca 900
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caacaaagag agcatgaatt agctatgcaa aattattttc tttttctccg atcagctaag 1200
aacatgattg atggaatcaa gatactaatg ttcatgcctg catcaatggt gaaaccattc 1260
aaaattgaaa tggaagtcac aataaacaaa tatgtggcta aaatatgtaa ctctaagtta 1320
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<210> 26
<211> 440
<212> PRT
<213> Taxus cuspidata

<400> 26

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Met Gly Arg Phe Asn Val Asp Met Ile Glu Arg Val Ile Val Ala Pro
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Cys Leu Gln Ser Pro Lys Asn Ile Leu His Leu Ser Pro Ile Asp Asn
             20                  25                  30

Lys Thr Arg Gly Leu Thr Asn Ile Leu Ser Val Tyr Asn Ala Ser Gln
         35                  40                  45

Arg Val Ser Val Ser Ala Asp Pro Ala Lys Thr Ile Arg Glu Ala Leu
     50                  55                  60

Ser Lys Val Leu Val Tyr Tyr Pro Pro Phe Ala Gly Arg Leu Arg Asn
 65                  70                  75                  80

Thr Glu Asn Gly Asp Leu Glu Val Glu Cys Thr Gly Glu Gly Ala Val
                 85                  90                  95

Phe Val Glu Ala Met Ala Asp Asn Asp Leu Ser Val Leu Gln Asp Phe
            100                 105                 110

Asn Glu Tyr Asp Pro Ser Phe Gln Gln Leu Val Phe Asn Leu Arg Glu
```

Asp Val Asn Ile Glu Asp Leu His Leu Leu Thr Val Gln Val Thr Arg
          130   135   140

Phe Thr Cys Gly Gly Phe Val Val Gly Thr Arg Phe His His Ser Val
145   150   155   160

Ser Asp Gly Lys Gly Ile Gly Gln Leu Leu Lys Gly Met Gly Glu Met
              165   170   175

Ala Arg Gly Glu Phe Lys Pro Ser Leu Glu Pro Ile Trp Asn Arg Glu
          180   185   190

Met Val Lys Pro Glu Asp Ile Met Tyr Leu Gln Phe Asp His Phe Asp
          195   200   205

Phe Ile His Pro Pro Leu Asn Leu Glu Lys Ser Ile Gln Ala Ser Met
      210   215   220

Val Ile Ser Phe Glu Arg Ile Asn Tyr Ile Lys Arg Cys Met Met Glu
225   230   235   240

Glu Cys Lys Glu Phe Phe Ser Ala Phe Glu Val Val Val Ala Leu Ile
              245   250   255

Trp Leu Ala Arg Thr Lys Ser Phe Arg Ile Pro Pro Asn Glu Tyr Val
          260   265   270

Lys Ile Ile Phe Pro Ile Asp Met Arg Asn Ser Phe Asp Ser Pro Leu
          275   280   285

Pro Lys Gly Tyr Tyr Gly Asn Ala Ile Gly Asn Ala Cys Ala Met Asp
      290   295   300

Asn Val Lys Asp Leu Leu Asn Gly Ser Leu Leu Tyr Ala Leu Met Leu
305   310   315   320

Ile Lys Lys Ser Lys Phe Ala Leu Asn Glu Asn Phe Lys Ser Arg Ile
              325   330   335

Leu Thr Lys Pro Ser Thr Leu Asp Ala Asn Met Lys His Glu Asn Val
              340   345   350

Val Gly Cys Gly Asp Trp Arg Asn Leu Gly Phe Tyr Glu Ala Asp Phe
          355   360   365

Gly Trp Gly Asn Ala Val Asn Val Ser Pro Met Gln Gln Gln Arg Glu
      370   375   380

His Glu Leu Ala Met Gln Asn Tyr Phe Leu Phe Leu Arg Ser Ala Lys
385   390   395   400

Asn Met Ile Asp Gly Ile Lys Ile Leu Met Phe Met Pro Ala Ser Met
              405   410   415

Val Lys Pro Phe Lys Ile Glu Met Glu Val Thr Ile Asn Lys Tyr Val
          420   425   430

Ala Lys Ile Cys Asn Ser Lys Leu
      435   440

20

<210> 27
<211> 1317
<212> DNA
<213> Taxus cuspidata

<400> 27
atggagaaga cagatttaca cgtaaatctg attgagaaag tgatggttgg gccatccccg 60
cctctgccca aaaccaccct gcaactctcc tccatagaca acctgccagg ggtaagagga 120
agcattttca atgccttgtt aatttacaat gcctctccct ctcccaccat gatctctgca 180
gatcctgcaa aaccaattag agaagctctc gccaagatcc tggtttatta tccccctttt 240
gctggccgcc tcagagagac agaaaatggg gatctggaag tggaatgcac aggggagggt 300
gctatgtttt tggaagccat ggcagacaat gagctgtctg tgttgggaga ttttgatgac 360
agcaatccat catttcagca gctacttttt tcgcttccac tcgataccaa tttcaaagac 420
ctctctcttc tggttgttca ggtaactcgt tttacatgtg gaggctttgt tgttggagtg 480
agtttccacc atggtgtatg tgatggtcga ggagcggccc aatttcttaa aggtttggca 540
gagatggcac ggggagaggt taagctctca ttggaaccaa tatggaatag ggaactagtg 600
aagcttgatg accctaaata ccttcaattt tttcactttg aattcctacg agcgccttca 660
attgttgaga aaattgttca acatattttt attatagatt ttgagaccat aaattatatc 720
aaacaatctg ttatggaaga atgtaaagaa ttttgctctt cattcgaagt tgcatcagca 780
atgacttgga tagcaaggac aagagctttt caaattccag aaagtgagta cgtgaaaatt 840
ctcttcggaa tggacatgag gaactcattt aatccccctc ttccaagcgg atactatggt 900
aactccattg gtaccgcatg tgcagtggat aatgttcaag acctcttaag tggatctctt 960
ttgcgtgcta taatgattat aaagaaatca aaggtctctt taaatgataa tttcaagtca 1020
agagctgtgg tgaagccatc tgaattggat gtgaatatga atcatgaaaa cgtagttgca 1080
tttgctgatt ggagccgatt gggatttgat gaagtggatt ttggttgggg gaatgcggtg 1140
agtgtaagcc ctgtgcaaca acagtctgcg ttagcaatgc aaaattattt tcttttccta 1200
aaaccttcca agaacaagcc cgatggaatc aaaatattaa tgtttctgcc cctatcaaaa 1260
atgaagtcat tcaaaattga aatggaagcc atgatgaaaa aatatgtggc taaagta 1317

<210> 28
<211> 439
<212> PRT
<213> Taxus cuspidata

<400> 28
Met Glu Lys Thr Asp Leu His Val Asn Leu Ile Glu Lys Val Met Val
  1   5   10   15

Gly Pro Ser Pro Pro Leu Pro Lys Thr Thr Leu Gln Leu Ser Ser Ile
             20   25   30

Asp Asn Leu Pro Gly Val Arg Gly Ser Ile Phe Asn Ala Leu Leu Ile
         35   40   45

Tyr Asn Ala Ser Pro Ser Pro Thr Met Ile Ser Ala Asp Pro Ala Lys
     50   55   60

Pro Ile Arg Glu Ala Leu Ala Lys Ile Leu Val Tyr Tyr Pro Pro Phe
 65   70   75   80

Ala Gly Arg Leu Arg Glu Thr Glu Asn Gly Asp Leu Glu Val Glu Cys
                 85   90   95

Thr Gly Glu Gly Ala Met Phe Leu Glu Ala Met Ala Asp Asn Glu Leu
             100   105   110

Ser Val Leu Gly Asp Phe Asp Asp Ser Asn Pro Ser Phe Gln Gln Leu
             115   120   125

21

```
Leu Phe Ser Leu Pro Leu Asp Thr Asn Phe Lys Asp Leu Ser Leu Leu
    130                 135             140

Val Val Gln Val Thr Arg Phe Thr Cys Gly Gly Phe Val Val Gly Val
145                 150             155                 160

Ser Phe His His Gly Val Cys Asp Gly Arg Gly Ala Ala Gln Phe Leu
            165             170             175

Lys Gly Leu Ala Glu Met Ala Arg Gly Glu Val Lys Leu Ser Leu Glu
            180             185             190

Pro Ile Trp Asn Arg Glu Leu Val Lys Leu Asp Asp Pro Lys Tyr Leu
            195             200             205

Gln Phe Phe His Phe Glu Phe Leu Arg Ala Pro Ser Ile Val Glu Lys
    210                 215             220

Ile Val Gln Thr Tyr Phe Ile Ile Asp Phe Glu Thr Ile Asn Tyr Ile
225                 230             235                 240

Lys Gln Ser Val Met Glu Glu Cys Lys Glu Phe Cys Ser Ser Phe Glu
            245             250             255

Val Ala Ser Ala Met Thr Trp Ile Ala Arg Thr Arg Ala Phe Gln Ile
            260             265             270

Pro Glu Ser Glu Tyr Val Lys Ile Leu Phe Gly Met Asp Met Arg Asn
            275             280             285

Ser Phe Asn Pro Pro Leu Pro Ser Gly Tyr Tyr Gly Asn Ser Ile Gly
    290                 295             300

Thr Ala Cys Ala Val Asp Asn Val Gln Asp Leu Leu Ser Gly Ser Leu
305                 310             315                 320

Leu Arg Ala Ile Met Ile Ile Lys Lys Ser Lys Val Ser Leu Asn Asp
            325             330             335

Asn Phe Lys Ser Arg Ala Val Val Lys Pro Ser Glu Leu Asp Val Asn
            340             345             350

Met Asn His Glu Asn Val Val Ala Phe Ala Asp Trp Ser Arg Leu Gly
    355                 360             365

Phe Asp Glu Val Asp Phe Gly Trp Gly Asn Ala Val Ser Val Ser Pro
    370                 375             380

Val Gln Gln Gln Ser Ala Leu Ala Met Gln Asn Tyr Phe Leu Phe Leu
385                 390             395                 400

Lys Pro Ser Lys Asn Lys Pro Asp Gly Ile Lys Ile Leu Met Phe Leu
            405             410             415

Pro Leu Ser Lys Met Lys Ser Phe Lys Ile Glu Met Glu Ala Met Met
            420             425             430

Lys Lys Tyr Val Ala Lys Val
            435
```

22

```
<210> 29
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:proteolytic
      fragment

<400> 29
Thr Thr Leu Gln Leu Ser Ser Ile Asp Asn Leu Pro Gly Val Arg
  1               5                  10                  15


<210> 30
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:proteolytic
      fragment

<400> 30
Ile Leu Val Tyr Tyr Pro Pro Phe Ala Gly Arg
  1               5                  10


<210> 31
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:proteolytic
      fragment

<400> 31
Phe Thr Cys Gly Gly Phe Val Val Gly Val Ser Phe
  1               5                  10


<210> 32
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:proteolytic
      fragment

<400> 32
Lys Gly Leu Ala Glu Ile Ala Arg Gly Glu Val Lys
  1               5                  10


<210> 33
<211> 15
<212> PRT
<213> Artificial Sequence
```

<220>
<223> Description of Artificial Sequence:proteolytic
      fragment

<400> 33
Asn Leu Pro Asn Asp Thr Asn Pro Ser Ser Gly Tyr Tyr Gly Asn
  1   5   10   15

<210> 34
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR primer

<220>
<221> misc feature
<222> (3)..(18)
<223> n represents a, c, t, or g.

<400> 34
atnctngtnt attatccncc   20

<210> 35
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR primer

<220>
<221> misc feature
<222> (9)..(18)
<223> n represents a, c, t, or g.

<400> 35
tattatccnc cntttgcngg   20

<210> 36
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR primer

<220>
<221> misc feature
<222> (9)..(18)
<223> n represents a, c, t, or g.

<400> 36
ttctatccnt tcgcnggnag   20

24

```
<210> 37
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR primer

<220>
<221> misc feature
<222> (9)..(18)
<223> n represents a, c, t, or g.

<400> 37
tactatccnt tngcnggnag                                          20


<210> 38
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR primer

<220>
<221> misc feature
<222> (9)..(15)
<223> n represents a, c, t, or g.

<400> 38
ctaaaaccna ccccntttgg                                          20


<210> 39
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:consensus
      sequence

<400> 39
Phe Tyr Pro Phe Ala Gly Arg
  1               5


<210> 40
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:consensus
      sequence

<400> 40
Tyr Tyr Pro Leu Ala Gly Arg
  1               5
```

```
<210> 41
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:consensus
      sequence

<400> 41
Asp Phe Gly Trp Gly Lys Pro
  1               5


<210> 42
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR primer

<400> 42
cctcatcttt cccccattga taat                                          24


<210> 43
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR primer

<400> 43
aaaaagaaaa taattttgcc atgcaag                                       27


<210> 44
<211> 1320
<212> DNA
<213> Taxus cuspidata

<400> 44
atggcaggct caacagaatt tgtggtaaga agcttagaga gagtgatggt ggctccaagc 60
cagccatcgc ccaaagcttt cctgcagctc tccacccttg acaatctacc aggggtgaga 120
gaaaacattt ttaacacctt gttagtctac aatgcctcag acagagtttc cgtagatcct 180
gcaaaagtaa ttcggcaggc tctctccaag gtgttggtgt actattcccc ttttgcaggg 240
cgtctcagga aaaaagaaaa tggagatctt gaagtggagt gcacagggga gggtgctctg 300
tttgtggaag ccatggctga cactgacctc tcagtcttag gagatttgga tgactacagt 360
ccttcacttg agcaactact tttttgtctt ccgcctgata cagatattga ggacatccat 420
cctctggtgg ttcaggtaac tcgttttaca tgtggaggtt ttgttgtagg ggtgagtttc 480
tgccatggta tatgtgatgg actaggagca ggccagtttc ttatagccat gggagagatg 540
gcaaggggag agattaagcc ctcctcggag ccaatatgga agagagaatt gctgaagccg 600
gaagaccctt ataccggtt ccagtattat cactttcaat tgatttgccc gccttcaaca 660
ttcgggaaaa tagttcaagg atctcttgtt ataacctctg agacaataaa ttgtatcaaa 720
caatgcctta gggaagaaag taaagaattt tgctctgcgt tcgaagttgt atctgcattg 780
gcttggatag caaggacaag ggctcttcaa attccacata gtgagaatgt gaagcttatt 840
tttgcaatgg acatgagaaa attatttaat ccaccacttt cgaagggata ctacggtaat 900
tttgttggta ccgtatgtgc aatggataat gtcaaggacc tattaagtgg atctcttttg 960
```

```
cgtgttgtaa ggattataaa gaaagcaaag gtctctttaa atgagcattt cacgtcaaca 1020
atcgtgacac cccgttctgg atcagatgag agtatcaatt atgaaaacat agttggattt 1080
ggtgatcgaa ggcgattggg atttgatgaa gtagactttg ggtggggggca tgcagataat 1140
gtaagtctcg tgcaacatgg attgaaggat gtttcagtcg tgcaaagtta ttttcttttc 1200
atacgacctc ccaagaataa ccccgatgga atcaagatcc tatcgttcat gcccccgtca 1260
atagtgaaat ccttcaaatt tgaaatggaa accatgacaa acaaatatgt aactaagcct 1320
```

<210> 45
<211> 440
<212> PRT
<213> Taxus cuspidata

<400> 45

```
Met Ala Gly Ser Thr Glu Phe Val Val Arg Ser Leu Glu Arg Val Met
  1               5                  10                  15

Val Ala Pro Ser Gln Pro Ser Pro Lys Ala Phe Leu Gln Leu Ser Thr
             20                  25                  30

Leu Asp Asn Leu Pro Gly Val Arg Glu Asn Ile Phe Asn Thr Leu Leu
         35                  40                  45

Val Tyr Asn Ala Ser Asp Arg Val Ser Val Asp Pro Ala Lys Val Ile
     50                  55                  60

Arg Gln Ala Leu Ser Lys Val Leu Val Tyr Tyr Ser Pro Phe Ala Gly
 65                  70                  75                  80

Arg Leu Arg Lys Lys Glu Asn Gly Asp Leu Glu Val Glu Cys Thr Gly
                 85                  90                  95

Glu Gly Ala Leu Phe Val Glu Ala Met Ala Asp Thr Asp Leu Ser Val
            100                 105                 110

Leu Gly Asp Leu Asp Asp Tyr Ser Pro Ser Leu Glu Gln Leu Leu Phe
            115                 120                 125

Cys Leu Pro Pro Asp Thr Asp Ile Glu Asp Ile His Pro Leu Val Val
        130                 135                 140

Gln Val Thr Arg Phe Thr Cys Gly Gly Phe Val Val Gly Val Ser Phe
145                 150                 155                 160

Cys His Gly Ile Cys Asp Gly Leu Gly Ala Gly Gln Phe Leu Ile Ala
                165                 170                 175

Met Gly Glu Met Ala Arg Gly Glu Ile Lys Pro Ser Ser Glu Pro Ile
            180                 185                 190

Trp Lys Arg Glu Leu Leu Lys Pro Glu Asp Pro Leu Tyr Arg Phe Gln
            195                 200                 205

Tyr Tyr His Phe Gln Leu Ile Cys Pro Pro Ser Thr Phe Gly Lys Ile
     210                 215                 220

Val Gln Gly Ser Leu Val Ile Thr Ser Glu Thr Ile Asn Cys Ile Lys
225                 230                 235                 240

Gln Cys Leu Arg Glu Glu Ser Lys Glu Phe Cys Ser Ala Phe Glu Val
                245                 250                 255
```

27

```
Val Ser Ala Leu Ala Trp Ile Ala Arg Thr Arg Ala Leu Gln Ile Pro
        260                 265                 270

His Ser Glu Asn Val Lys Leu Ile Phe Ala Met Asp Met Arg Lys Leu
        275                 280                 285

Phe Asn Pro Pro Leu Ser Lys Gly Tyr Tyr Gly Asn Phe Val Gly Thr
        290                 295                 300

Val Cys Ala Met Asp Asn Val Lys Asp Leu Leu Ser Gly Ser Leu Leu
305                 310                 315                 320

Arg Val Val Arg Ile Ile Lys Lys Ala Lys Val Ser Leu Asn Glu His
                325                 330                 335

Phe Thr Ser Thr Ile Val Thr Pro Arg Ser Gly Ser Asp Glu Ser Ile
                340                 345                 350

Asn Tyr Glu Asn Ile Val Gly Phe Gly Asp Arg Arg Arg Leu Gly Phe
        355                 360                 365

Asp Glu Val Asp Phe Gly Trp Gly His Ala Asp Asn Val Ser Leu Val
        370                 375                 380

Gln His Gly Leu Lys Asp Val Ser Val Val Gln Ser Tyr Phe Leu Phe
385                 390                 395                 400

Ile Arg Pro Pro Lys Asn Asn Pro Asp Gly Ile Lys Ile Leu Ser Phe
                405                 410                 415

Met Pro Pro Ser Ile Val Lys Ser Phe Lys Phe Glu Met Glu Thr Met
                420                 425                 430

Thr Asn Lys Tyr Val Thr Lys Pro
        435                 440


<210> 46
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer

<400> 46
gggaattcca tatggcaggc tcaacagaat ttgtgg                          36


<210> 47
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer

<400> 47
gtttatacat tgattcggaa ctagatctga tc                             32
```

<210> 48
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 6 amino acid
      motif found in acyl transferases

<220>
<221> VARIANT
<222> (2)..(4)
<223> Any amino acid

<400> 48
His Xaa Xaa Xaa Asp Gly
  1   5

<210> 49
<211> 1332
<212> DNA
<213> Taxus cuspidata

<400> 49
atggagaagt ctggttcagc agatctacat gtaaatatca ttgagcgagt ggtggtggcg 60
ccatgccagc cgacgcccaa aacaatcctg cagctctcta gcattgacaa aatgggagga 120
ggatttgcca acgtattgct agtcttcggt gcctcccatg gcgtttctgc agatcctgca 180
aaaacaattc gagaggctct ctccaagacc ttggtctttt atttcccttt tgctgggcgg 240
ctcagaaaga aagaagatgg ggatatcgaa gtggagtgca tagagcaggg agctctgttc 300
gtggaagcca tggcggacaa cgatctttca gtcgtacgag atctggatga gtacaatcca 360
ttatttcggc agctacaatc ttcgctttca ctggatacag attacaagga cctccatctt 420
atgactgttc aggtaactcc gtttacatgt gggggttttg tcatgggaac gagtgtacac 480
caaagtatat gcgatggaaa tggattgggg caattttta aaagcatggc agagatagtg 540
aggggagaag ttaagccctc aatcgaacca atatggaata gagaattggt gaagcctgaa 600
gactatatac acctccagtt gtatgtcagt gaattcattc gcccaccttt agtagttgag 660
aaagttgggc aaacatctct tgttataagc ttcgagaaaa taaatcatat caaacgatgc 720
attatggaag aaagtaaaga atctttctct tcatttgaaa ttgtaacagc aatggtttgg 780
ctagcaagga caagggcttt tcaaattcca cacaacgagg atgtgactct tctccttgca 840
atggatgcaa ggagatcatt tgaccccct attccgaagg gatactacgg taatgtcatt 900
ggtactacat atgcaaaaga taatgtccac aacctcttaa gtggatctct tttgcatgct 960
ctaacagtta taaagaaatc aatgtcctca ttttatgaga atatgacctc aagagtcttg 1020
gtgaacccat ctacattaga tttgagtatg aagtatgaaa atgtagtttc acttagtgat 1080
tggagccggt tgggacataa tgaagtggac tttgggtggg aaatgcaat aaatgtaagc 1140
actctgcaac aacaatggga aaatgaggta gctataccaa cttttttac tttccttcaa 1200
actcccaaga atataccaga tggaatcaag atactaatgt tcatgccccc atcaagagag 1260
aaaacattcg aaattgaagt ggaagccatg ataagaaaat atttgactaa agtgtcgcat 1320
tcaaagctat aa 1332

<210> 50
<211> 443
<212> PRT
<213> Taxus cuspidata

<400> 50
Met Glu Lys Ser Gly Ser Ala Asp Leu His Val Asn Ile Ile Glu Arg
  1   5   10   15

Val Val Val Ala Pro Cys Gln Pro Thr Pro Lys Thr Ile Leu Gln Leu

29

Ser Ser Ile Asp Lys Met Gly Gly Gly Phe Ala Asn Val Leu Leu Val
          35   40   45

Phe Gly Ala Ser His Gly Val Ser Ala Asp Pro Ala Lys Thr Ile Arg
      50   55   60

Glu Ala Leu Ser Lys Thr Leu Val Phe Tyr Phe Pro Phe Ala Gly Arg
  65   70   75   80

Leu Arg Lys Lys Glu Asp Gly Asp Ile Glu Val Glu Cys Ile Glu Gln
              85   90   95

Gly Ala Leu Phe Val Glu Ala Met Ala Asp Asn Asp Leu Ser Val Val
          100   105   110

Arg Asp Leu Asp Glu Tyr Asn Pro Leu Phe Arg Gln Leu Gln Ser Ser
      115   120   125

Leu Ser Leu Asp Thr Asp Tyr Lys Asp Leu His Leu Met Thr Val Gln
      130   135   140

Val Thr Pro Phe Thr Cys Gly Gly Phe Val Met Gly Thr Ser Val His
145   150   155   160

Gln Ser Ile Cys Asp Gly Asn Gly Leu Gly Gln Phe Phe Lys Ser Met
              165   170   175

Ala Glu Ile Val Arg Gly Glu Val Lys Pro Ser Ile Glu Pro Ile Trp
              180   185   190

Asn Arg Glu Leu Val Lys Pro Glu Asp Tyr Ile His Leu Gln Leu Tyr
          195   200   205

Val Ser Glu Phe Ile Arg Pro Pro Leu Val Val Glu Lys Val Gly Gln
      210   215   220

Thr Ser Leu Val Ile Ser Phe Glu Lys Ile Asn His Ile Lys Arg Cys
225   230   235   240

Ile Met Glu Glu Ser Lys Glu Ser Phe Ser Ser Phe Glu Ile Val Thr
              245   250   255

Ala Met Val Trp Leu Ala Arg Thr Arg Ala Phe Gln Ile Pro His Asn
          260   265   270

Glu Asp Val Thr Leu Leu Leu Ala Met Asp Ala Arg Arg Ser Phe Asp
          275   280   285

Pro Pro Ile Pro Lys Gly Tyr Tyr Gly Asn Val Ile Gly Thr Thr Tyr
      290   295   300

Ala Lys Asp Asn Val His Asn Leu Leu Ser Gly Ser Leu Leu His Ala
305   310   315   320

Leu Thr Val Ile Lys Lys Ser Met Ser Ser Phe Tyr Glu Asn Met Thr
              325   330   335

Ser Arg Val Leu Val Asn Pro Ser Thr Leu Asp Leu Ser Met Lys Tyr
          340   345   350

Glu Asn Val Val Ser Leu Ser Asp Trp Ser Arg Leu Gly His Asn Glu
        355   360   365

Val Asp Phe Gly Trp Gly Asn Ala Ile Asn Val Ser Thr Leu Gln Gln
        370   375   380

Gln Trp Glu Asn Glu Val Ala Ile Pro Thr Phe Phe Thr Phe Leu Gln
385   390   395   400

Thr Pro Lys Asn Ile Pro Asp Gly Ile Lys Ile Leu Met Phe Met Pro
                405   410   415

Pro Ser Arg Glu Lys Thr Phe Glu Ile Glu Val Glu Ala Met Ile Arg
                420   425   430

Lys Tyr Leu Thr Lys Val Ser His Ser Lys Leu
        435   440

<210> 51
<211> 1338
<212> DNA
<213> Taxus cuspidata

<400> 51
atgaagaaga caggttcgtt tgcagagttc catgtgaata tgattgagcg agtcatggtg 60
agaccgtgcc tgccttcgcc caaaacaatc ctccctctct ccgccattga caacatggca 120
agagcttttt ctaacgtatt gctggtctac gctgccaaca tggacagagt ctctgcagat 180
cctgcaaaag tgattcgaga ggctctctcc aaggtgctgg tttattatta cccttttgct 240
gggcggctca gaaataaaga aaatggggaa cttgaagtgg agtgcacagg cagggtgtt 300
ctgtttctgg aagccatggc tgacagcgac ctttcagtct taacagatct ggataactac 360
aatccatcgt ttcagcagtt gattttttct ctaccacagg atacagatat tgaggacctc 420
catctcttga ttgttcaggt aactcgtttt acatgtgggg gtttttgttgt gggagcgaat 480
gtgtatggta gtgcatgcga tgcaaaagga tttggccagt ttcttcaaag tatggcagag 540
atggcgagag gagaggttaa gccctcgatt gaaccgatat ggaatagaga actggtgaag 600
ctagaacatt gtatgccctt ccggatgagt catcttcaaa ttatacatgc acctgtaatt 660
gaggagaaat ttgttcaaac atctcttgtt ataaactttg agataataaa tcatatcaga 720
cgacgcatca tggaagaacg caaagaaagt ttatcttcat ttgaaattgt agcagcattg 780
gtttggctag caaagataaa ggcttttcaa attccacata gtgagaatgt gaagcttctt 840
tttgcaatgg acttgaggag atcatttaat ccccctcttc cacatggata ctatggcaat 900
gcctttggta ttgcatgtgc aatggataat gtccatgacc ttctaagtgg atctcttttg 960
cgcactataa tgatcataaa gaaatcaaag ttctctttac acaagaact caactcaaaa 1020
accgtgatga gctcatctgt agtagatgtc aatacgaagt ttgaagatgt agtttcaatt 1080
agtgattgga ggcattctat atattatgaa gtggactttg ggtggggaga tgcaatgaac 1140
gtgagcacta tgctacaaca acaggagcac gagaaatctc tgccaactta ttttctcttc 1200
ctacaatcta ctaagaacat gccagatgga atcaagatgc taatgtttat gcctccatca 1260
aaactgaaaa aattcaaaat tgaaatagaa gctatgataa aaaaatatgt gactaaagtg 1320
tgtccgtcaa agttatga   1338

<210> 52
<211> 445
<212> PRT
<213> Taxus cuspidata

<400> 52
Met Lys Lys Thr Gly Ser Phe Ala Glu Phe His Val Asn Met Ile Glu
1   5   10   15

Arg Val Met Val Arg Pro Cys Leu Pro Ser Pro Lys Thr Ile Leu Pro

Leu Ser Ala Ile Asp Asn Met Ala Arg Ala Phe Ser Asn Val Leu Leu
     35   40   45

Val Tyr Ala Ala Asn Met Asp Arg Val Ser Ala Asp Pro Ala Lys Val
     50   55   60

Ile Arg Glu Ala Leu Ser Lys Val Leu Val Tyr Tyr Tyr Pro Phe Ala
65   70   75   80

Gly Arg Leu Arg Asn Lys Glu Asn Gly Glu Leu Glu Val Glu Cys Thr
           85   90   95

Gly Gln Gly Val Leu Phe Leu Glu Ala Met Ala Asp Ser Asp Leu Ser
         100   105   110

Val Leu Thr Asp Leu Asp Asn Tyr Asn Pro Ser Phe Gln Gln Leu Ile
     115   120   125

Phe Ser Leu Pro Gln Asp Thr Asp Ile Glu Asp Leu His Leu Leu Ile
     130   135   140

Val Gln Val Thr Arg Phe Thr Cys Gly Gly Phe Val Val Gly Ala Asn
145   150   155   160

Val Tyr Gly Ser Ala Cys Asp Ala Lys Gly Phe Gly Gln Phe Leu Gln
         165   170   175

Ser Met Ala Glu Met Ala Arg Gly Glu Val Lys Pro Ser Ile Glu Pro
         180   185   190

Ile Trp Asn Arg Glu Leu Val Lys Leu Glu His Cys Met Pro Phe Arg
         195   200   205

Met Ser His Leu Gln Ile Ile His Ala Pro Val Ile Glu Glu Lys Phe
     210   215   220

Val Gln Thr Ser Leu Val Ile Asn Phe Glu Ile Ile Asn His Ile Arg
225   230   235   240

Arg Arg Ile Met Glu Glu Arg Lys Glu Ser Leu Ser Ser Phe Glu Ile
         245   250   255

Val Ala Ala Leu Val Trp Leu Ala Lys Ile Lys Ala Phe Gln Ile Pro
         260   265   270

His Ser Glu Asn Val Lys Leu Leu Phe Ala Met Asp Leu Arg Arg Ser
     275   280   285

Phe Asn Pro Pro Leu Pro His Gly Tyr Tyr Gly Asn Ala Phe Gly Ile
     290   295   300

Ala Cys Ala Met Asp Asn Val His Asp Leu Leu Ser Gly Ser Leu Leu
305   310   315   320

Arg Thr Ile Met Ile Ile Lys Lys Ser Lys Phe Ser Leu His Lys Glu
         325   330   335

Leu Asn Ser Lys Thr Val Met Ser Ser Ser Val Val Asp Val Asn Thr
         340   345   350

Lys Phe Glu Asp Val Val Ser Ile Ser Asp Trp Arg His Ser Ile Tyr
        355   360   365

Tyr Glu Val Asp Phe Gly Trp Gly Asp Ala Met Asn Val Ser Thr Met
    370   375   380

Leu Gln Gln Gln Glu His Glu Lys Ser Leu Pro Thr Tyr Phe Ser Phe
385   390   395   400

Leu Gln Ser Thr Lys Asn Met Pro Asp Gly Ile Lys Met Leu Met Phe
            405   410   415

Met Pro Pro Ser Lys Leu Lys Lys Phe Lys Ile Glu Ile Glu Ala Met
            420   425   430

Ile Lys Lys Tyr Val Thr Lys Val Cys Pro Ser Lys Leu
        435   440   445

<210> 53
<211> 1326
<212> DNA
<213> Taxus cuspidata

<400> 53
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tgcaggggaa tttttaacac gttgttggtt ttcaatgccc ctgacaacat ttctgcagat   180
cctgtaaaaa taattagaga ggctctctcc aaggtgttgg tgtattattt ccctcttgct   240
gggcggctca gaagtaaaga aattggggaa cttgaagtgg agtgcacagg ggatggtgct   300
ctgtttgtgg aagccatggt ggaagacacc atttcagtct tacgagatct ggatgacctc   360
aatccatcat ttcagcagtt agttttttgg catccattgg acactgctat tgaggatctt   420
catcttgtga ttgttcaggt aacacgtttt acatgtgggg gcattgccgt tggagtgact   480
ttgccccata gtgtatgtga tggacgtgga gcagcccagt ttgttacagc actggcagag   540
atggcgaggg gagaggttaa gccctcacta gaaccaatat ggaatagaga attgttgaac   600
cctgaagacc ctctacatct ccagttaaat caatttgatt cgatatgccc acctccaatg   660
ctggaggaat tgggtcaagc ttctttttgtt ataaacgttg acaccataga atatatgaag   720
caatgtgtca tggaggaatg taatgaattt tgttcgtctt ttgaagtagt ggcagcattg   780
gtttggatag cacggacaaa ggctcttcaa attccacata ctgagaatgt gaagcttctc   840
tttgcgatgg atttgaggaa attatttaat cccccacttc caaatggata ttatggtaat   900
gccattggta ctgcatatgc aatggataat gtccaagacc tcttaaatgg atctctttttg   960
cgtgctataa tgattataaa aaaagcaaag gctgatttaa aagataatta ttcgaggtca 1020
agggtagtta caaacccata ttcattagat gtgaacaaga aatccgacaa cattcttgca 1080
ttgagtgact ggaggcggtt gggatttttat gaagccgatt ttgggtgggg aggtccactg 1140
aatgtaagtt ccctgcaacg gttggaaaat ggattgccta tgtttagtac ttttctatac 1200
ctactacctg ccaaaaacaa gtctgatgga atcaagctgc tactgtcttg tatgccacca 1260
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gtgtga   1326

<210> 54
<211> 441
<212> PRT
<213> Taxus cuspidata

<400> 54
Met Glu Lys Ala Gly Ser Thr Asp Phe His Val Lys Lys Phe Asp Pro
 1   5   10   15

Val Met Val Ala Pro Ser Leu Pro Ser Pro Lys Ala Thr Val Gln Leu

33

Ser Val Val Asp Ser Leu Thr Ile Cys Arg Gly Ile Phe Asn Thr Leu
        35   40   45

Leu Val Phe Asn Ala Pro Asp Asn Ile Ser Ala Asp Pro Val Lys Ile
        50   55   60

Ile Arg Glu Ala Leu Ser Lys Val Leu Val Tyr Tyr Phe Pro Leu Ala
    65   70   75   80

Gly Arg Leu Arg Ser Lys Glu Ile Gly Glu Leu Glu Val Glu Cys Thr
                85   90   95

Gly Asp Gly Ala Leu Phe Val Glu Ala Met Val Glu Asp Thr Ile Ser
            100   105   110

Val Leu Arg Asp Leu Asp Asp Leu Asn Pro Ser Phe Gln Gln Leu Val
        115   120   125

Phe Trp His Pro Leu Asp Thr Ala Ile Glu Asp Leu His Leu Val Ile
        130   135   140

Val Gln Val Thr Arg Phe Thr Cys Gly Gly Ile Ala Val Gly Val Thr
145   150   155   160

Leu Pro His Ser Val Cys Asp Gly Arg Gly Ala Ala Gln Phe Val Thr
                165   170   175

Ala Leu Ala Glu Met Ala Arg Gly Glu Val Lys Pro Ser Leu Glu Pro
            180   185   190

Ile Trp Asn Arg Glu Leu Leu Asn Pro Glu Asp Pro Leu His Leu Gln
            195   200   205

Leu Asn Gln Phe Asp Ser Ile Cys Pro Pro Pro Met Leu Glu Glu Leu
        210   215   220

Gly Gln Ala Ser Phe Val Ile Asn Val Asp Thr Ile Glu Tyr Met Lys
225   230   235   240

Gln Cys Val Met Glu Glu Cys Asn Glu Phe Cys Ser Ser Phe Glu Val
                245   250   255

Val Ala Ala Leu Val Trp Ile Ala Arg Thr Lys Ala Leu Gln Ile Pro
        260   265   270

His Thr Glu Asn Val Lys Leu Leu Phe Ala Met Asp Leu Arg Lys Leu
        275   280   285

Phe Asn Pro Pro Leu Pro Asn Gly Tyr Tyr Gly Asn Ala Ile Gly Thr
        290   295   300

Ala Tyr Ala Met Asp Asn Val Gln Asp Leu Leu Asn Gly Ser Leu Leu
305   310   315   320

Arg Ala Ile Met Ile Ile Lys Lys Ala Lys Ala Asp Leu Lys Asp Asn
                325   330   335

Tyr Ser Arg Ser Arg Val Val Thr Asn Pro Tyr Ser Leu Asp Val Asn
            340   345   350

34

Lys Lys Ser Asp Asn Ile Leu Ala Leu Ser Asp Trp Arg Arg Leu Gly
        355   360   365

Phe Tyr Glu Ala Asp Phe Gly Trp Gly Gly Pro Leu Asn Val Ser Ser
    370   375   380

Leu Gln Arg Leu Glu Asn Gly Leu Pro Met Phe Ser Thr Phe Leu Tyr
385   390   395   400

Leu Leu Pro Ala Lys Asn Lys Ser Asp Gly Ile Lys Leu Leu Leu Ser
                405   410   415

Cys Met Pro Pro Thr Thr Leu Lys Ser Phe Lys Ile Val Met Glu Ala
            420   425   430

Met Ile Glu Lys Tyr Val Ser Lys Val
        435   440

<210> 55
<211> 1347
<212> DNA
<213> Taxus cuspidata

<400> 55
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gacagactgc cagggatgaa gtttgctact tttagcgccg tgttagtcta caatgccagc 180
tctcactcca tttttgcaaa tcctgcacag attattcggc aggctctctc caaggtgttg 240
cagtattatc ccgcttttgc cgggcggatc agacagaaag aaaatgagga actggaagtg 300
gagtgcacag gggagggtgc gctgtttgtg gaagccctgg tcgacaatga tctttcagtc 360
ttgcgagatt tggatgccca aaatgcatct tatgagcagt tgctcttttc gcttccgccc 420
aatatacagg ttcaggacct ccatcctctg attcttcagg taactcgttt tacgtgtgga 480
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tttcttcaag gcctagcaga tatggcaagg ggagagacta agcctttagt ggaaccagta 600
tggaatagag aactgataaa gcccgaagat ctaatgcacc tccaatttca taagtttggt 660
ttgatacgcc aacctctaaa acttgatgaa atttgtcaag catcttttac tataaactca 720
gagataataa attacatcaa acaatgtgtt atagaagaat gtaacgaaat tttctctgca 780
tttgaagttg tagtagcatt aacttggata gcaggacaa aggctttca aattccacat 840
aatgagaatg tgatgatgct ctttggaatg gacgcgagga atatttaa tccccactt 900
ccaaagggat attatggtaa tgccattggt acttcatgtg taattgaaa tgtacaagac 960
ctcttaaatg gatctctttc gcgtgctgta atgattacaa agaaatcaaa gatccctta 1020
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catgaaaacg tagttggatt tggagattgg aggcgattgg gatttcatga gtggacttc 1140
ggatcgggag atgcagtgaa catcagcccc atacaacaac gactagagga tgatcaattg 1200
gctatgcgaa attattttct tttccttcga ccttacaagg acatgcctaa tggaatcaaa 1260
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<210> 56
<211> 448
<212> PRT
<213> Taxus cuspidata

<400> 56
Met Glu Lys Gly Asn Ala Ser Asp Val Pro Glu Leu His Val Gln Ile
 1   5   10   15

Cys Glu Arg Val Met Val Lys Pro Cys Val Pro Ser Pro Ser Pro Asn

35

Leu Val Leu Gln Leu Ser Ala Val Asp Arg Leu Pro Gly Met Lys Phe
        35   40   45

Ala Thr Phe Ser Ala Val Leu Val Tyr Asn Ala Ser Ser His Ser Ile
        50   55   60

Phe Ala Asn Pro Ala Gln Ile Ile Arg Gln Ala Leu Ser Lys Val Leu
65   70   75   80

Gln Tyr Tyr Pro Ala Phe Ala Gly Arg Ile Arg Gln Lys Glu Asn Glu
                85   90   95

Glu Leu Glu Val Glu Cys Thr Gly Glu Gly Ala Leu Phe Val Glu Ala
            100   105   110

Leu Val Asp Asn Asp Leu Ser Val Leu Arg Asp Leu Asp Ala Gln Asn
        115   120   125

Ala Ser Tyr Glu Gln Leu Leu Phe Ser Leu Pro Pro Asn Ile Gln Val
    130   135   140

Gln Asp Leu His Pro Leu Ile Leu Gln Val Thr Arg Phe Thr Cys Gly
145   150   155   160

Gly Phe Val Val Gly Val Gly Phe His His Gly Ile Cys Asp Ala Arg
            165   170   175

Gly Gly Thr Gln Phe Leu Gln Gly Leu Ala Asp Met Ala Arg Gly Glu
            180   185   190

Thr Lys Pro Leu Val Glu Pro Val Trp Asn Arg Glu Leu Ile Lys Pro
        195   200   205

Glu Asp Leu Met His Leu Gln Phe His Lys Phe Gly Leu Ile Arg Gln
    210   215   220

Pro Leu Lys Leu Asp Glu Ile Cys Gln Ala Ser Phe Thr Ile Asn Ser
225   230   235   240

Glu Ile Ile Asn Tyr Ile Lys Gln Cys Val Ile Glu Glu Cys Asn Glu
                245   250   255

Ile Phe Ser Ala Phe Glu Val Val Val Ala Leu Thr Trp Ile Ala Arg
            260   265   270

Thr Lys Ala Phe Gln Ile Pro His Asn Glu Asn Val Met Met Leu Phe
        275   280   285

Gly Met Asp Ala Arg Lys Tyr Phe Asn Pro Pro Leu Pro Lys Gly Tyr
    290   295   300

Tyr Gly Asn Ala Ile Gly Thr Ser Cys Val Ile Glu Asn Val Gln Asp
305   310   315   320

Leu Leu Asn Gly Ser Leu Ser Arg Ala Val Met Ile Thr Lys Lys Ser
            325   330   335

Lys Ile Pro Leu Ile Glu Asn Leu Arg Ser Arg Ile Val Ala Asn Gln
            340   345   350

36

```
Ser Gly Val Asp Glu Glu Ile Lys His Glu Asn Val Val Gly Phe Gly
        355             360             365

Asp Trp Arg Arg Leu Gly Phe His Glu Val Asp Phe Gly Ser Gly Asp
    370             375             380

Ala Val Asn Ile Ser Pro Ile Gln Gln Arg Leu Glu Asp Asp Gln Leu
385             390             395             400

Ala Met Arg Asn Tyr Phe Leu Phe Leu Arg Pro Tyr Lys Asp Met Pro
            405             410             415

Asn Gly Ile Lys Ile Leu Met Phe Met Asp Pro Ser Arg Val Lys Leu
            420             425             430

Phe Lys Asp Glu Met Glu Ala Met Ile Ile Lys Tyr Met Pro Lys Ala
        435             440             445
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gctctctcca aggttttggt ttattattca ccttttgctg gaaggctcag aaacaaagaa 240
aatggggatc ttgaagtgga gtgcagtggg gagggtgctg tctttgtgga agccatggcg 300
gacaacgagc tttcagtctt acaagatttg gatgagtact gtacatcgct taaacagcta 360
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actagttttta catgtggggg atttgttgtg ggaataagtt tctaccatac tatatgtgat 480
ggaaaaggac tgggccagtt cttcaaggc atgagtgaga tttccaaggg agcatttaaa 540
ccctcactag aaccagtatg gaatagagaa atggtgaagc ctgaacacct tatgttcctc 600
cagtttaata attttgaatt cgtaccacat cctcttaaat ttaagaagat tgttaaagca 660
tctattgaaa ttaactttga gacaataaat tgtttcaagc aatgcatgat ggaagaatgt 720
aaagaaaatt tctctacatt tgaaattgta gcagcactga tttggctagc caagacaaag 780
tctttccaaa ttccagatag tgagaatgtg aaacttatgt ttgcagtcga catgaggaca 840
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atagataatg tcaaagaact cttaagtgga tcaattttgc gtgctctaat tattatccaa 960
aagacaattt tctctttaaa agataatttc atatcaagaa gattgatgaa accatctaca 1020
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tattatgagg cagattgtgg gtgtggaaat ctatcaaatg taattcccat ggatcaacaa 1140
atagagcatg agtcacctgt gcaaagtaga tttatgttgc ttcgatcatc caagaacatg 1200
caaaatggaa tcaagatact aatgtccatg cctgaatcaa tggcgaaacc attcaaaagt 1260
gaaatgaaat tcacaataaa aaaatatgtg actggagcgt gtttctctga gttatga 1317
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<400> 58
Met Glu Lys Leu His Val Asp Ile Ile Glu Arg Val Lys Val Ala Pro
 1               5               10              15
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37

Cys Leu Pro Ser Ser Lys Glu Ile Leu Gln Leu Ser Ser Leu Asp Asn
                  20   25   30

Ile Leu Arg Cys Tyr Val Ser Val Leu Phe Val Tyr Asp Arg Val Ser
          35   40   45

Thr Val Ser Ala Asn Pro Ala Lys Thr Ile Arg Glu Ala Leu Ser Lys
      50   55   60

Val Leu Val Tyr Tyr Ser Pro Phe Ala Gly Arg Leu Arg Asn Lys Glu
65   70   75   80

Asn Gly Asp Leu Glu Val Glu Cys Ser Gly Glu Gly Ala Val Phe Val
              85   90   95

Glu Ala Met Ala Asp Asn Glu Leu Ser Val Leu Gln Asp Leu Asp Glu
          100   105   110

Tyr Cys Thr Ser Leu Lys Gln Leu Ile Phe Thr Val Pro Met Asp Thr
          115   120   125

Lys Ile Glu Asp Leu His Leu Leu Ser Val Gln Val Thr Ser Phe Thr
      130   135   140

Cys Gly Gly Phe Val Val Gly Ile Ser Phe Tyr His Thr Ile Cys Asp
145   150   155   160

Gly Lys Gly Leu Gly Gln Phe Leu Gln Gly Met Ser Glu Ile Ser Lys
              165   170   175

Gly Ala Phe Lys Pro Ser Leu Glu Pro Val Trp Asn Arg Glu Met Val
          180   185   190

Lys Pro Glu His Leu Met Phe Leu Gln Phe Asn Asn Phe Glu Phe Val
          195   200   205

Pro His Pro Leu Lys Phe Lys Lys Ile Val Lys Ala Ser Ile Glu Ile
      210   215   220

Asn Phe Glu Thr Ile Asn Cys Phe Lys Gln Cys Met Met Glu Glu Cys
225   230   235   ⁻240

Lys Glu Asn Phe Ser Thr Phe Glu Ile Val Ala Ala Leu Ile Trp Leu
              245   250   255

Ala Lys Thr Lys Ser Phe Gln Ile Pro Asp Ser Glu Asn Val Lys Leu
          260   265   270

Met Phe Ala Val Asp Met Arg Thr Ser Phe Asp Pro Pro Leu Pro Lys
          275   280   285

Gly Tyr Tyr Gly Asn Val Ile Gly Ile Ala Gly Ala Ile Asp Asn Val
      290   295   300

Lys Glu Leu Leu Ser Gly Ser Ile Leu Arg Ala Leu Ile Ile Ile Gln
305   310   315   320

Lys Thr Ile Phe Ser Leu Lys Asp Asn Phe Ile Ser Arg Arg Leu Met
              325   330   335

38

Lys Pro Ser Thr Leu Asp Val Asn Met Lys His Glu Asn Val Val Leu
        340   345   350

Leu Gly Asp Trp Arg Asn Leu Gly Tyr Tyr Glu Ala Asp Cys Gly Cys
        355   360   365

Gly Asn Leu Ser Asn Val Ile Pro Met Asp Gln Gln Ile Glu His Glu
        370   375   380

Ser Pro Val Gln Ser Arg Phe Met Leu Leu Arg Ser Ser Lys Asn Met
385   390   395   400

Gln Asn Gly Ile Lys Ile Leu Met Ser Met Pro Glu Ser Met Ala Lys
                405   410   415

Pro Phe Lys Ser Glu Met Lys Phe Thr Ile Lys Lys Tyr Val Thr Gly
        420   425   430

Ala Cys Phe Ser Glu Leu
        435

<210> 59
<211> 331
<212> PRT
<213> Arabidopsis thaliana

<400> 59
Met Ser Gln Ile Leu Glu Asn Pro Asn Pro Asn Glu Leu Asn Lys Leu
  1   5   10   15

His Pro Phe Glu Phe His Glu Val Ser Asp Val Pro Leu Thr Val Gln
        20   25   30

Leu Thr Phe Phe Glu Cys Gly Gly Leu Ala Leu Gly Ile Gly Leu Ser
        35   40   45

His Lys Leu Cys Asp Ala Leu Ser Gly Leu Ile Phe Val Asn Ser Trp
        50   55   60

Ala Ala Phe Ala Arg Gly Gln Thr Asp Glu Ile Ile Thr Pro Ser Phe
65   70   75   80

Asp Leu Ala Lys Met Phe Pro Pro Cys Asp Ile Glu Asn Leu Asn Met
                85   90   95

Ala Thr Gly Ile Thr Lys Glu Asn Ile Val Thr Arg Arg Phe Val Phe
                100   105   110

Leu Arg Ser Ser Val Glu Ser Leu Arg Glu Arg Phe Ser Gly Asn Lys
        115   120   125

Lys Ile Arg Ala Thr Arg Val Glu Val Leu Ser Val Phe Ile Trp Ser
        130   135   140

Arg Phe Met Ala Ser Thr Asn His Asp Asp Lys Thr Gly Lys Ile Tyr
145   150   155   160

Thr Leu Ile His Pro Val Asn Leu Arg Arg Gln Ala Asp Pro Asp Ile
                165   170   175

39

```
Pro Asp Asn Met Phe Gly Asn Ile Met Arg Phe Ser Val Thr Val Pro
        180                 185                 190

Met Met Ile Ile Asn Glu Asn Asp Glu Glu Lys Ala Ser Leu Val Asp
        195                 200                 205

Gln Met Arg Glu Glu Ile Arg Lys Ile Asp Ala Val Tyr Val Lys Lys
    210                 215                 220

Leu Gln Glu Asp Asn Arg Gly His Leu Glu Phe Leu Asn Lys Gln Ala
225                 230                 235                 240

Ser Gly Phe Val Asn Gly Glu Ile Val Ser Phe Ser Phe Thr Ser Leu
            245                 250                 255

Cys Lys Phe Pro Val Tyr Glu Ala Asp Phe Gly Trp Gly Lys Pro Leu
            260                 265                 270

Trp Val Ala Ser Ala Arg Met Ser Tyr Lys Asn Leu Val Ala Phe Ile
        275                 280                 285

Asp Thr Lys Glu Gly Asp Gly Ile Glu Ala Trp Ile Asn Leu Asp Gln
    290                 295                 300

Asn Asp Met Ser Arg Phe Glu Ala Asp Glu Glu Leu Leu Arg Tyr Val
305                 310                 315                 320

Ser Ser Asn Pro Ser Val Met Val Ser Val Ser
            325                 330


<210> 60
<211> 435
<212> PRT
<213> Arabidopsis thaliana

<400> 60
Met Glu Ala Lys Leu Glu Val Thr Gly Lys Glu Val Ile Lys Pro Ala
  1           5                 10                  15

Ser Pro Ser Pro Arg Asp Arg Leu Gln Leu Ser Ile Leu Asp Leu Tyr
            20                 25                  30

Cys Pro Gly Ile Tyr Val Ser Thr Ile Phe Phe Tyr Asp Leu Ile Thr
            35                 40                  45

Glu Ser Ser Glu Val Phe Ser Glu Asn Leu Lys Leu Ser Leu Ser Glu
    50                 55                  60

Thr Leu Ser Arg Phe Tyr Pro Leu Ala Gly Arg Ile Glu Gly Leu Ser
65                 70                 75                  80

Ile Ser Cys Asn Asp Glu Gly Ala Val Phe Thr Glu Ala Arg Thr Asp
            85                 90                  95

Leu Leu Leu Pro Asp Phe Leu Arg Asn Leu Asn Thr Asp Ser Leu Ser
            100                105                 110

Gly Phe Leu Pro Thr Leu Ala Ala Gly Glu Ser Pro Ala Ala Trp Pro
        115                 120                 125
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40

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Leu Leu Ser Val Lys Val Thr Phe Phe Gly Ser Gly Ser Gly Val Ala
    130             135         140

Val Ser Val Ser Val Ser His Lys Ile Cys Asp Ile Ala Ser Leu Val
145             150         155                 160

Thr Phe Val Lys Asp Trp Ala Thr Thr Thr Ala Lys Gly Lys Ser Asn
                165         170                 175

Ser Thr Ile Glu Phe Ala Glu Thr Thr Ile Tyr Pro Pro Pro Pro Ser
            180         185             190

His Met Tyr Glu Gln Phe Pro Ser Thr Asp Ser Asp Ser Asn Ile Thr
        195             200         205

Ser Lys Tyr Val Leu Lys Arg Phe Val Phe Glu Pro Ser Lys Ile Ala
    210         215             220

Glu Leu Lys His Lys Ala Ala Ser Glu Ser Val Pro Val Pro Thr·Arg
225             230             235             240

Val Glu Ala Ile Met Ser Leu Ile Trp Arg Cys Ala Arg Asn Ser Ser
            245         250             255

Arg Ser Asn Leu Leu Ile Pro Arg Gln Ala Val Met Trp Gln Ala Met
        260         265             270

Asp Ile Arg Leu Arg Ile Pro Ser Ser Val Ala Pro Lys Asp Val Ile
        275         280             285

Gly Asn Leu Gln Ser Gly Phe Ser Leu Lys Lys Asp Ala Glu Ser Glu
    290         295             300

Phe Glu Ile Pro Glu Ile Val Ala Thr Phe Arg Lys Asn Lys Glu Arg
305             310             315             320

Val Asn Glu Met Ile Lys Glu Ser Leu Gln Gly Asn Thr Ile Gly Gln
            325         330             335

Ser Leu Leu Ser Leu Met Ala Glu Thr Val Ser Glu Ser Thr Glu Ile
        340         345             350

Asp Arg Tyr Ile Met Ser Ser Trp Cys Arg Lys Pro Phe Tyr Glu Val
        355         360             365

Asp Phe Gly Ser Gly Ser Pro Val Trp Val Gly Tyr Ala Ser His Thr
    370         375             380

Ile Tyr Asp Asn Met Val Gly Val Val Leu Ile Asp Ser Lys Glu Gly
385             390             395             400

Asp Gly Val Glu Ala Trp Ile Ser Leu Pro Glu Glu Asp Met Ser Val
            405         410             415

Phe Val Asp Asp Gln Glu Leu Leu Ala Tyr Ala Val Leu Asn Pro Pro
        420         425             430

Val Val Ala
    435
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<210> 61
<211> 458
<212> PRT
<213> Arabidopsis thaliana

<400> 61

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Met Pro Met Leu Met Ala Thr Arg Ile Asp Ile Ile Gln Lys Leu Asn
 1               5                  10                  15

Val Tyr Pro Arg Phe Gln Asn His Asp Lys Lys Lys Leu Ile Thr Leu
            20                  25                  30

Ser Asn Leu Asp Arg Gln Cys Pro Leu Leu Met Tyr Ser Val Phe Phe
        35                  40                  45

Tyr Lys Asn Thr Thr Thr Arg Asp Phe Asp Ser Val Phe Ser Asn Leu
    50                  55                  60

Lys Leu Gly Leu Glu Glu Thr Met Ser Val Trp Tyr Pro Ala Ala Gly
65                  70                  75                  80

Arg Leu Gly Leu Asp Gly Gly Gly Cys Lys Leu Asn Ile Arg Cys Asn
                85                  90                  95

Asp Gly Gly Ala Val Met Val Glu Ala Val Ala Thr Gly Val Lys Leu
            100                 105                 110

Ser Glu Leu Gly Asp Leu Thr Gln Tyr Asn Glu Phe Tyr Glu Asn Leu
        115                 120                 125

Val Tyr Lys Pro Ser Leu Asp Gly Asp Phe Ser Val Met Pro Leu Val
    130                 135                 140

Val Ala Gln Val Thr Arg Phe Ala Cys Gly Gly Tyr Ser Ile Gly Ile
145                 150                 155                 160

Gly Thr Ser His Ser Leu Phe Asp Gly Ile Ser Ala Tyr Glu Phe Ile
                165                 170                 175

His Ala Trp Ala Ser Asn Ser His Ile His Asn Lys Ser Asn Ser Lys
            180                 185                 190

Ile Thr Asn Lys Lys Glu Asp Val Val Ile Lys Pro Val His Asp Arg
        195                 200                 205

Arg Asn Leu Leu Val Asn Arg Asp Ala Val Arg Glu Thr Asn Ala Ala
    210                 215                 220

Ala Ile Cys His Leu Tyr Gln Leu Ile Lys Gln Ala Met Met Thr Tyr
225                 230                 235                 240

Gln Glu Gln Asn Arg Asn Leu Glu Leu Pro Asp Ser Gly Phe Val Ile
                245                 250                 255

Lys Thr Phe Glu Leu Asn Gly Asp Ala Ile Glu Ser Met Lys Lys Lys
            260                 265                 270

Ser Leu Glu Gly Phe Met Cys Ser Ser Phe Glu Phe Leu Ala Ala His
        275                 280                 285

Leu Trp Lys Ala Arg Thr Arg Ala Leu Gly Leu Arg Arg Asp Ala Met
```

42

Val Cys Leu Gln Phe Ala Val Asp Ile Arg Lys Arg Thr Glu Thr Pro
305   310   315   320

Leu Pro Glu Gly Phe Ser Gly Asn Ala Tyr Val Leu Ala Ser Val Ala
                325   330   335

Ser Thr Ala Arg Glu Leu Leu Glu Glu Leu Thr Leu Glu Ser Ile Val
            340   345   350

Asn Lys Ile Arg Glu Ala Lys Lys Ser Ile Asp Gln Gly Tyr Ile Asn
            355   360   365

Ser Tyr Met Glu Ala Leu Gly Gly Ser Asn Asp Gly Asn Leu Pro Pro
        370   375   380

Leu Lys Glu Leu Thr Leu Ile Ser Asp Trp Thr Lys Met Pro Phe His
385   390   395   400

Asn Val Gly Phe Gly Asn Gly Gly Glu Pro Ala Asp Tyr Met Ala Pro
                405   410   415

Leu Cys Pro Pro Val Pro Gln Val Ala Tyr Phe Met Lys Asn Pro Lys
            420   425   430

Asp Ala Lys Gly Val Leu Val Arg Ile Gly Leu Asp Pro Arg Asp Val
            435   440   445

Asn Gly Phe Ser Asn His Phe Leu Asp Cys
        450   455

<210> 62
<211> 436
<212> PRT
<213> Arabidopsis thaliana

<400> 62
Met Glu Lys Asn Val Glu Ile Leu Ser Arg Glu Ile Val Lys Pro Ser
  1   5   10   15

Ser Pro Thr Pro Asp Asp Lys Arg Ile Leu Asn Leu Ser Leu Leu Asp
            20   25   30

Ile Leu Ser Ser Pro Met Tyr Thr Gly Ala Leu Leu Phe Tyr Ala Ala
        35   40   45

Asp Pro Gln Asn Leu Leu Gly Phe Ser Thr Glu Glu Thr Ser Leu Lys
    50   55   60

Leu Lys Lys Ser Leu Ser Lys Thr Leu Pro Ile Phe Tyr Pro Leu Ala
 65   70   75   80

Gly Arg Ile Ile Gly Ser Phe Val Glu Cys Asn Asp Glu Gly Ala Val
                85   90   95

Phe Ile Glu Ala Arg Val Asp His Leu Leu Ser Glu Phe Leu Lys Cys
            100   105   110

Pro Val Pro Glu Ser Leu Glu Leu Leu Ile Pro Val Glu Ala Lys Ser

```
Arg Glu Ala Val Thr Trp Pro Val Leu Leu Ile Gln Ala Asn Phe Phe
    130             135             140

Ser Cys Gly Gly Leu Val Ile Thr Ile Cys Val Ser His Lys Ile Thr
145             150             155             160

Asp Ala Thr Ser Leu Ala Met Phe Ile Arg Gly Trp Ala Glu Ser Ser
                165             170             175

Arg Gly Leu Gly Ile Thr Leu Ile Pro Ser Phe Thr Ala Ser Glu Val
        180             185             190

Phe Pro Lys Pro Leu Asp Glu Leu Pro Ser Lys Pro Met Asp Arg Lys
        195             200             205

Glu Glu Val Glu Glu Met Ser Cys Val Thr Lys Arg Phe Val Phe Asp
    210             215             220

Ala Ser Lys Ile Lys Lys Leu Arg Ala Lys Ala Ser Arg Asn Leu Val
225             230             235             240

Lys Asn Pro Thr Arg Val Glu Ala Val Thr Ala Leu Phe Trp Arg Cys
                245             250             255

Val Thr Lys Val Ser Arg Leu Ser Ser Leu Thr Pro Arg Thr Ser Val
        260             265             270

Leu Gln Ile Leu Val Asn Leu Arg Gly Lys Val Asp Ser Leu Cys Glu
        275             280             285

Asn Thr Ile Gly Asn Met Leu Ser Leu Met Ile Leu Lys Asn Glu Glu
    290             295             300

Ala Ala Ile Glu Arg Ile Gln Asp Val Val Asp Glu Ile Arg Arg Ala
305             310             315             320

Lys Glu Ile Phe Ser Leu Asn Cys Lys Glu Met Ser Lys Ser Ser Ser
                325             330             335

Arg Ile Phe Glu Leu Leu Glu Glu Ile Gly Lys Val Tyr Gly Arg Gly
        340             345             350

Asn Glu Met Asp Leu Trp Met Ser Asn Ser Trp Cys Lys Leu Gly Leu
        355             360             365

Tyr Asp Ala Asp Phe Gly Trp Gly Lys Pro Val Trp Val Thr Gly Arg
    370             375             380

Gly Thr Ser His Phe Lys Asn Leu Met Leu Leu Ile Asp Thr Lys Asp
385             390             395             400

Gly Glu Gly Ile Glu Ala Trp Ile Thr Leu Thr Glu Glu Gln Met Ser
                405             410             415

Leu Phe Glu Cys Asp Gln Glu Leu Leu Glu Ser Ala Ser Leu Asn Pro
        420             425             430

Pro Val Leu Ile
    435
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<210> 63
<211> 482
<212> PRT
<213> Arabidopsis thaliana

<400> 63
Met Pro Ser Leu Glu Lys Ser Val Thr Ile Ile Ser Arg Asn Arg Val
 1   5   10   15

Phe Pro Asp Gln Lys Ser Thr Leu Val Asp Leu Lys Leu Ser Val Ser
            20   25   30

Asp Leu Pro Met Leu Ser Cys His Tyr Ile Gln Lys Gly Cys Leu Phe
        35   40   45

Thr Cys Pro Asn Leu Pro Leu Pro Ala Leu Ile Ser His Leu Lys His
    50   55   60

Ser Leu Ser Ile Thr Leu Thr His Phe Pro Pro Leu Ala Gly Arg Leu
65   70   75   80

Ser Thr Ser Ser Ser Gly His Val Phe Leu Thr Cys Asn Asp Ala Gly
                85   90   95

Ala Asp Phe Val Phe Ala Gln Ala Lys Ser Ile His Val Ser Asp Val
            100   105   110

Ile Ala Gly Ile Asp Val Pro Asp Val Val Lys Glu Phe Phe Thr Tyr
        115   120   125

Asp Arg Ala Val Ser Tyr Glu Gly His Asn Arg Pro Ile Leu Ala Val
    130   135   140

Gln Val Thr Glu Leu Asn Asp Gly Val Phe Ile Gly Cys Ser Val Asn
145   150   155   160

His Ala Val Thr Asp Gly Thr Ser Leu Trp Asn Phe Ile Asn Thr Phe
                165   170   175

Ala Glu Val Ser Arg Gly Ala Lys Asn Val Thr Arg Gln Pro Asp Phe
            180   185   190

Thr Arg Glu Ser Val Leu Ile Ser Pro Ala Val Leu Lys Val Pro Gln
        195   200   205

Gly Gly Pro Lys Val Thr Phe Asp Glu Asn Ala Pro Leu Arg Glu Arg
    210   215   220

Ile Phe Ser Phe Ser Arg Glu Ser Ile Gln Glu Leu Lys Ala Val Val
225   230   235   240

Asn Lys Lys Lys Trp Leu Thr Val Asp Asn Gly Glu Ile Asp Gly Val
                245   250   255

Glu Leu Leu Gly Lys Gln Ser Asn Asp Lys Leu Asn Gly Lys Glu Asn
            260   265   270

Gly Ile Leu Thr Glu Met Leu Glu Ser Leu Phe Gly Arg Asn Asp Ala
        275   280   285

45

Val Ser Lys Pro Val Ala Val Glu Ile Ser Ser Phe Gln Ser Leu Cys
290   295   300

Ala Leu Leu Trp Arg Ala Ile Thr Arg Ala Arg Lys Leu Pro Ser Ser
305   310   315   320

Lys Thr Thr Thr Phe Arg Met Ala Val Asn Cys Arg His Arg Leu Ser
    325   330   335

Pro Lys Leu Asn Pro Glu Tyr Phe Gly Asn Ala Ile Gln Ser Val Pro
   340   345   350

Thr Phe Ala Thr Ala Ala Glu Val Leu Ser Arg Asp Leu Lys Trp Cys
  355   360   365

Ala Asp Gln Leu Asn Gln Ser Val Ala Ala His Gln Asp Gly Arg Ile
 370   375   380

Arg Ser Val Val Ala Asp Trp Glu Ala Asn Pro Arg Cys Phe Pro Leu
385   390   395   400

Gly Asn Ala Asp Gly Ala Ser Val Thr Met Gly Ser Ser Pro Arg Phe
    405   410   415

Pro Met Tyr Asp Asn Asp Phe Gly Trp Gly Arg Pro Val Ala Val Arg
   420   425   430

Ser Gly Arg Ser Asn Lys Phe Asp Gly Lys Ile Ser Ala Phe Pro Gly
  435   440   445

Arg Glu Gly Asn Gly Thr Val Asp Leu Glu Val Val Leu Ser Pro Glu
 450   455   460

Thr Met Ala Gly Ile Glu Ser Asp Gly Glu Phe Met Arg Tyr Val Thr
465   470   475   480

Asn Lys

<210> 64
<211> 461
<212> PRT
<213> Arabidopsis thaliana

<400> 64
Met Ala Ser Cys Ile Gln Glu Leu His Phe Thr His Leu His Ile Pro
 1   5   10   15

Val Thr Ile Asn Gln Gln Phe Leu Val His Pro Ser Ser Pro Thr Pro
   20   25   30

Ala Asn Gln Ser Pro His His Ser Leu Tyr Leu Ser Asn Leu Asp Asp
  35   40   45

Ile Ile Gly Ala Arg Val Phe Thr Pro Ser Val Tyr Phe Tyr Pro Ser
  50   55   60

Thr Asn Asn Arg Glu Ser Phe Val Leu Lys Arg Leu Gln Asp Ala Leu
 65   70   75   80

Ser Glu Val Leu Val Pro Tyr Tyr Pro Leu Ser Gly Arg Leu Arg Glu
                85   90   95

Val Glu Asn Gly Lys Leu Glu Val Phe Phe Gly Glu Glu Gln Gly Val
                100   105   110

Leu Met Val Ser Ala Asn Ser Ser Met Asp Leu Ala Asp Leu Gly Asp
                115   120   125

Leu Thr Val Pro Asn Pro Ala Trp Leu Pro Leu Ile Phe. Arg Asn Pro
        130   135   140

Gly Glu Glu Ala Tyr Lys Ile Leu Glu Met Pro Leu Leu Ile Ala Gln
145   150   155   160

Val Thr Phe Phe Thr Cys Gly Gly Phe Ser Leu Gly Ile Arg Leu Cys
                165   170   175

His Cys Ile Cys Asp Gly Phe Gly Ala Met Gln Phe Leu Gly Ser Trp
                180   185   190

Ala Ala Thr Ala Lys Thr Gly Lys Leu Ile Ala Asp Pro Glu Pro Val
                195   200   205

Trp Asp Arg Glu Thr Phe Lys Pro Arg Asn Pro Pro Met Val Lys Tyr
    210   215   220

Pro His His Glu Tyr Leu Pro Ile Glu Glu Arg Ser Asn Leu Thr Asn
225   230   235   240

Ser Leu Trp Asp Thr Lys Pro Leu Gln Lys Cys Tyr Arg Ile Ser Lys
                245   250   255

Glu Phe Gln Cys Arg Val Lys Ser Ile Ala Gln Gly Glu Asp Pro Thr
                260   265   270

Leu Val Cys Ser Thr Phe Asp Ala Met Ala Ala His Ile Trp Arg Ser
                275   280   285

Trp Val Lys Ala Leu Asp Val Lys Pro Leu Asp Tyr Asn Leu Arg Leu
    290   295   300

Thr Phe Ser Val Asn Val Arg Thr Arg Leu Glu Thr Leu Lys Leu Arg
305   310   315   320

Lys Gly Phe Tyr Gly Asn Val Val Cys Leu Ala Cys Ala Met Ser Ser
                325   330   335

Val Glu Ser Leu Ile Asn Asp Ser Leu Ser Lys Thr Thr Arg Leu Val
                340   345   350

Gln Asp Ala Arg Leu Arg Val Ser Glu Asp Tyr Leu Arg Ser Met Val
        355   360   365

Asp Tyr Val Asp Val Lys Arg Pro Lys Arg Leu Glu Phe Gly Gly Lys
        370   375   380

Leu Thr Ile Thr Gln Trp Thr Arg Phe Glu Met Tyr Glu Thr Ala Asp
385   390   395   400

47

Phe Gly Trp Gly Lys Pro Val Tyr Ala Gly Pro Ile Asp Leu Arg Pro
              405   410   415

Thr Pro Gln Val Cys Val Leu Leu Pro Gln Gly Gly Val Glu Ser Gly
              420   425   430

Asn Asp Gln Ser Met Val Val Cys Leu Cys Leu Pro Pro Thr Ala Val
          435   440   445

His Thr Phe Thr Arg Leu Leu Ser Leu Asn Asp His Lys
    450   455   460

<210> 65
<211> 497
<212> PRT
<213> Arabidopsis thaliana

<400> 65
Ala Trp Gln Ile Glu Gly Ile Gln Val Thr Val Ser Cys Phe Phe Val
  1   5   10   15

Thr Cys Gly Lys Thr Arg Ser Ser Ser Asn Asn Pro His His Thr Thr
              20   25   30

Phe Phe Ile Leu Ser Glu Asn Asn Asn Gln Met Gly Glu Ala Ala Glu
          35   40   45

Gln Ala Arg Gly Phe His Val Thr Thr Thr Arg Lys Gln Val Ile Thr
    50   55   60

Ala Ala Leu Pro Leu Gln Asp His Trp Leu Pro Leu Ser Asn Leu Asp
 65   70   75   80

Leu Leu Leu Pro Pro Leu Asn Val His Val Cys Phe Cys Tyr Lys Lys
              85   90   95

Pro Leu His Phe Thr Asn Thr Val Ala Tyr Glu Thr Leu Lys Thr Ala
              100   105   110

Leu Ala Glu Thr Leu Val Ser Tyr Tyr Ala Phe Ala Gly Glu Leu Val
          115   120   125

Thr Asn Pro Thr Gly Glu Pro Glu Ile Leu Cys Asn Asn Arg Gly Val
    130   135   140

Asp Phe Val Glu Ala Gly Ala Asp Val Glu Leu Arg Glu Leu Asn Leu
145   150   155   160

Tyr Asp Pro Asp Glu Ser Ile Ala Lys Leu Val Pro Ile Lys Lys His
              165   170   175

Gly Val Ile Ala Ile Gln Val Thr Gln Leu Lys Cys Gly Ser Ile Val
          180   185   190

Val Gly Cys Thr Phe Asp His Arg Val Ala Asp Ala Tyr Ser Met Asn
          195   200   205

Met Phe Leu Leu Ser Trp Ala Glu Ile Ser Arg Ser Asp Val Pro Ile
    210   215   220

48

Ser Cys Val Pro Ser Phe Arg Arg Ser Leu Leu Asn Pro Arg Arg Pro
225   230   235   240

Leu Val Met Asp Pro Ser Ile Asp Gln Ile Tyr Met Pro Val Thr Ser
                245   250   255

Leu Pro Pro Pro Gln Glu Thr Thr Asn Pro Glu Asn Leu Leu Ala Ser
            260   265   270

Arg Ile Tyr Tyr Ile Lys Ala Asn Ala Leu Gln Glu Leu Gln Thr Leu
            275   280   285

Ala Ser Ser Ser Lys Asn Gly Lys Arg Thr Lys Leu Glu Ser Phe Ser
    290   295   300

Ala Phe Leu Trp Lys Leu Val Ala Glu His Ala Ala Lys Asp Pro Val
305   310   315   320

Pro Ile Lys Thr Ser Lys Leu Gly Ile Val Val Asp Gly Arg Arg Arg
                325   330   335

Leu Met Glu Lys Glu Asn Asn Thr Tyr Phe Gly Asn Val Leu Ser Val
            340   345   350

Pro Phe Gly Gly Gln Arg Ile Asp Asp Leu Ile Ser Lys Pro Leu Ser
            355   360   365

Trp Val Thr Glu Glu Val His Arg Phe Leu Lys Lys Ser Val Thr Lys
370   375   380

Glu His Phe Leu Asn Leu Ile Asp Trp Val Glu Thr Cys Arg Pro Thr
385   390   395   400

Pro Ala Val Ser Arg Ile Tyr Ser Val Gly Ser Asp Asp Gly Pro Ala
            405   410   415

Phe Val Val Ser Ser Gly Arg Ser Phe Pro Val Asn Gln Val Asp Phe
            420   425   430

Gly Trp Gly Ser Pro Val Phe Gly Ser Tyr His Phe Pro Trp Gly Gly
    435   440   445

Ser Ala Gly Tyr Val Met Pro Met Pro Ser Ser Val Asp Asp Arg Asp
    450   455   460

Trp Met Val Tyr Leu His Leu Thr Lys Gly Gln Leu Arg Phe Ile Glu
465   470   475   480

Glu Glu Ala Ser His Val Leu Lys Pro Ile Asp Asn Asp Tyr Leu Lys
            485   490   495

Ile

<210> 66
<211> 433
<212> PRT
<213> Clarkia breweri

<400> 66

49

```
Met Asn Val Thr Met His Ser Lys Lys Leu Leu Lys Pro Ser Ile Pro
 1               5                  10                  15

Thr Pro Asn His Leu Gln Lys Leu Asn Leu Ser Leu Leu Asp Gln Ile
            20                  25                  30

Gln Ile Pro Phe Tyr Val Gly Leu Ile Phe His Tyr Glu Thr Leu Ser
        35                  40                  45

Asp Asn Ser Asp Ile Thr Leu Ser Lys Leu Glu Ser Ser Leu Ser Glu
    50                  55                  60

Thr Leu Thr Leu Tyr Tyr His Val Ala Gly Arg Tyr Asn Gly Thr Asp
65                  70                  75                  80

Cys Val Ile Glu Cys Asn Asp Gln Gly Ile Gly Tyr Val Glu Thr Ala
            85                  90                  95

Phe Asp Val Glu Leu His Gln Phe Leu Leu Gly Glu Glu Ser Asn Asn
            100                 105                 110

Leu Asp Leu Leu Val Gly Leu Ser Gly Phe Leu Ser Glu Thr Glu Thr
        115                 120                 125

Pro Pro Leu Ala Ala Ile Gln Leu Asn Met Phe Lys Cys Gly Gly Leu
    130                 135                 140

Val Ile Gly Ala Gln Phe Asn His Ile Ile Gly Asp Met Phe Thr Met
145                 150                 155                 160

Ser Thr Phe Met Asn Ser Trp Ala Lys Ala Cys Arg Val Gly Ile Lys
            165                 170                 175

Glu Val Ala His Pro Thr Phe Gly Leu Ala Pro Leu Met Pro Ser Ala
            180                 185                 190

Lys Val Leu Asn Ile Pro Pro Pro Ser Phe Glu Gly Val Lys Phe
        195                 200                 205

Val Ser Lys Arg Phe Val Phe Asn Glu Asn Ala Ile Thr Arg Leu Arg
    210                 215                 220

Lys Glu Ala Thr Glu Glu Asp Gly Asp Gly Asp Asp Asp Gln Lys Lys
225                 230                 235                 240

Lys Arg Pro Ser Arg Val Asp Leu Val Thr Ala Phe Leu Ser Lys Ser
            245                 250                 255

Leu Ile Glu Met Asp Cys Ala Lys Lys Glu Gln Thr Lys Ser Arg Pro
            260                 265                 270

Ser Leu Met Val His Met Met Asn Leu Arg Lys Arg Thr Lys Leu Ala
            275                 280                 285

Leu Glu Asn Asp Val Ser Gly Asn Phe Phe Ile Val Val Asn Ala Glu
    290                 295                 300

Ser Lys Ile Thr Val Ala Pro Lys Ile Thr Asp Leu Thr Glu Ser Leu
305                 310                 315                 320

Gly Ser Ala Cys Gly Glu Ile Ile Ser Glu Val Ala Lys Val Asp Asp
```

50

```
Ala Glu Val Val Ser Ser Met Val Leu Asn Ser Val Arg Glu Phe Tyr
            340                 345                 350

Tyr Glu Trp Gly Lys Gly Glu Lys Asn Val Phe Leu Tyr Thr Ser Trp
        355                 360                 365

Cys Arg Phe Pro Leu Tyr Glu Val Asp Phe Gly Trp Gly Ile Pro Ser
    370                 375                 380

Leu Val Asp Thr Thr Ala Val Pro Phe Gly Leu Ile Val Leu Met Asp
385                 390                 395                 400

Glu Ala Pro Ala Gly Asp Gly Ile Ala Val Arg Ala Cys Leu Ser Glu
                405                 410                 415

His Asp Met Ile Gln Phe Gln Gln His His Gln Leu Leu Ser Tyr Val
                420                 425                 430

Ser
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<210> 67
<211> 450
<212> PRT
<213> Dianthus caryophyllus

<400> 67
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Met Gly Ser Ser Tyr Gln Glu Ser Pro Pro Leu Leu Leu Glu Asp Leu
  1             5                 10                  15

Lys Val Thr Ile Lys Glu Ser Thr Leu Ile Phe Pro Ser Glu Glu Thr
            20                  25                  30

Ser Glu Arg Lys Ser Met Phe Leu Ser Asn Val Asp Gln Ile Leu Asn
        35                  40                  45

Phe Asp Val Gln Thr Val His Phe Phe Arg Pro Asn Lys Glu Phe Pro
    50                  55                  60

Pro Glu Met Val Ser Glu Lys Leu Arg Lys Ala Leu Val Lys Leu Met
 65                  70                  75                  80

Asp Ala Tyr Glu Phe Leu Ala Gly Arg Leu Arg Val Asp Pro Ser Ser
                85                  90                  95

Gly Arg Leu Asp Val Asp Cys Asn Gly Ala Gly Ala Gly Phe Val Thr
                100                 105                 110

Ala Ala Ser Asp Tyr Thr Leu Glu Glu Leu Gly Asp Leu Val Tyr Pro
            115                 120                 125

Asn Pro Ala Phe Ala Gln Leu Val Thr Ser Gln Leu Gln Ser Leu Pro
        130                 135                 140

Lys Asp Asp Gln Pro Leu Phe Val Phe Gln Ile Thr Ser Phe Lys Cys
145                 150                 155                 160

Gly Gly Phe Ala Met Gly Ile Ser Thr Asn His Thr Thr Phe Asp Gly
```

```
Leu Ser Phe Lys Thr Phe Leu Glu Asn Leu Ala Ser Leu Leu His Glu
        180                 185             190

Lys Pro Leu Ser Thr Pro Pro Cys Asn Asp Arg Thr Leu Leu Lys Ala
        195             200             205

Arg Asp Pro Pro Ser Val Ala Phe Pro His His Glu Leu Val Lys Phe
    210             215             220

Gln Asp Cys Glu Thr Thr Thr Val Phe Glu Ala Thr Ser Glu His Leu
225             230             235             240

Asp Phe Lys Ile Phe Lys Leu Ser Ser Glu Gln Ile Lys Lys Leu Lys
            245             250             255

Glu Arg Ala Ser Glu Thr Ser Asn Gly Asn Val Arg Val Thr Gly Phe
        260             265             270

Asn Val Val Thr Ala Leu Val Trp Arg Cys Lys Ala Leu Ser Val Ala
        275             280             285

Ala Glu Glu Gly Glu Glu Thr Asn Leu Glu Arg Glu Ser Thr Ile Leu
    290             295             300

Tyr Ala Val Asp Ile Arg Gly Arg Leu Asn Pro Glu Leu Pro Pro Ser
305             310             315             320

Tyr Thr Gly Asn Ala Val Leu Thr Ala Tyr Ala Lys Glu Lys Cys Lys
            325             330             335

Ala Leu Leu Glu Glu Pro Phe Gly Arg Ile Val Glu Met Val Gly Glu
        340             345             350

Gly Ser Lys Arg Ile Thr Asp Glu Tyr Ala Arg Ser Ala Ile Asp Trp
        355             360             365

Gly Glu Leu Tyr Lys Gly Phe Pro His Gly Glu Val Leu Val Ser Ser
    370             375             380

Trp Trp Lys Leu Gly Phe Ala Glu Val Glu Tyr Pro Trp Gly Lys Pro
385             390             395             400

Lys Tyr Ser Cys Pro Val Val Tyr His Arg Lys Asp Ile Val Leu Leu
            405             410             415

Phe Pro Asp Ile Asp Gly Asp Ser Lys Gly Val Tyr Val Leu Ala Ala
            420             425             430

Leu Pro Ser Lys Glu Met Ser Lys Phe Gln His Trp Phe Glu Asp Thr
        435             440             445

Leu Cys
    450
```

<400> 68

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Met Glu Ser Gly Lys Ile Ser Val Glu Thr Glu Thr Leu Ser Lys Thr
1               5                   10              15

Leu Ile Lys Pro Ser Ser Pro Thr Pro Gln Ser Leu Ser Arg Tyr Asn
            20                  25                  30

Leu Ser Tyr Asn Asp Gln Asn Ile Tyr Gln Thr Cys Val Ser Val Gly
        35                  40                  45

Phe Phe Tyr Glu Asn Pro Asp Gly Ile Glu Ile Ser Thr Ile Arg Glu
    50                  55                  60

Gln Leu Gln Asn Ser Leu Ser Lys Thr Leu Val Ser Tyr Tyr Pro Phe
65                  70                  75                  80

Ala Gly Lys Val Val Lys Asn Asp Tyr Ile His Cys Asn Asp Asp Gly
            85                  90                  95

Ile Glu Phe Val Glu Val Arg Ile Arg Cys Arg Met Asn Asp Ile Leu
            100                 105                 110

Lys Tyr Glu Leu Arg Ser Tyr Ala Arg Asp Leu Val Leu Pro Lys Arg
        115                 120                 125

Val Thr Val Gly Ser Glu Asp Thr Thr Ala Ile Val Gln Leu Ser His
    130                 135                 140

Phe Asp Cys Gly Gly Leu Ala Val Ala Phe Gly Ile Ser His Lys Val
145                 150                 155                 160

Ala Asp Gly Gly Thr Ile Ala Ser Phe Met Lys Asp Trp Ala Ala Ser
            165                 170                 175

Ala Cys Tyr Leu Ser Ser Ser His His Val Pro Thr Pro Leu Leu Val
        180                 185                 190

Ser Asp Ser Ile Phe Pro Arg Gln Asp Asn Ile Ile Cys Glu Gln Phe
        195                 200                 205

Pro Thr Ser Lys Asn Cys Val Glu Lys Thr Phe Ile Phe Pro Pro Glu
    210                 215                 220

Ala Ile Glu Lys Leu Lys Ser Lys Ala Val Glu Phe Gly Ile Glu Lys
225                 230                 235                 240

Pro Thr Arg Val Glu Val Leu Thr Ala Phe Leu Ser Arg Cys Ala Thr
            245                 250                 255

Val Ala Gly Lys Ser Ala Ala Lys Asn Asn Asn Cys Gly Gln Ser Leu
            260                 265                 270

Pro Phe Pro Val Leu Gln Ala Ile Asn Leu Arg Pro Ile Leu Glu Leu
        275                 280                 285

Pro Gln Asn Ser Val Gly Asn Leu Val Ser Ile Tyr Phe Ser Arg Thr
    290                 295                 300

Ile Lys Glu Asn Asp Tyr Leu Asn Glu Lys Glu Tyr Thr Lys Leu Val
305                 310                 315                 320
```

53

```
Ile Asn Glu Leu Arg Lys Glu Lys Gln Lys Ile Lys Asn Leu Ser Arg
                325                 330                 335

Glu Lys Leu Thr Tyr Val Ala Gln Met Glu Glu Phe Val Lys Ser Leu
            340                 345                 350

Lys Glu Phe Asp Ile Ser Asn Phe Leu Asp Ile Asp Ala Tyr Leu Ser
        355                 360                 365

Asp Ser Trp Cys Arg Phe Pro Phe Tyr Asp Val Asp Phe Gly Trp Gly
    370                 375                 380

Lys Pro Ile Trp Val Cys Leu Phe Gln Pro Tyr Ile Lys Asn Cys Val
385                 390                 395                 400

Val Met Met Asp Tyr Pro Phe Gly Asp Asp Tyr Gly Ile Glu Ala Ile
            405                 410                 415

Val Ser Phe Glu Gln Glu Lys Met Ser Ala Phe Glu Lys Asn Glu Gln
            420                 425                 430

Leu Leu Gln Phe Val Ser Asn
        435


<210> 69
<211> 451
<212> PRT
<213> Arabidopsis thaliana

<400> 69
Met Ala Pro Ile Thr Phe Arg Lys Ser Tyr Thr Ile Val Pro Ala Glu
  1               5                  10                  15

Pro Thr Trp Ser Gly Arg Phe Pro Leu Ala Glu Trp Asp Gln Val Gly
            20                  25                  30

Thr Ile Thr His Ile Pro Thr Leu Tyr Phe Tyr Asp Lys Pro Ser Glu
        35                  40                  45

Ser Phe Gln Gly Asn Val Val Glu Ile Leu Lys Thr Ser Leu Ser Arg
    50                  55                  60

Val Leu Val His Phe Tyr Pro Met Ala Gly Arg Leu Arg Trp Leu Pro
65                  70                  75                  80

Arg Gly Arg Phe Glu Leu Asn Cys Asn Ala Glu Gly Val Glu Phe Ile
                85                  90                  95

Glu Ala Glu Ser Glu Gly Lys Leu Ser Asp Phe Lys Asp Phe Ser Pro
            100                 105                 110

Thr Pro Glu Phe Glu Asn Leu Met Pro Gln Val Asn Tyr Lys Asn Pro
        115                 120                 125

Ile Glu Thr Ile Pro Leu Phe Leu Ala Gln Val Thr Lys Phe Lys Cys
        130                 135                 140

Gly Gly Ile Ser Leu Ser Val Asn Val Ser His Ala Ile Val Asp Gly
145                 150                 155                 160
```

Gln Ser Ala Leu His Leu Ile Ser Glu Trp Gly Arg Leu Ala Arg Gly
            165   170   175

Glu Pro Leu Glu Thr Val Pro Phe Leu Asp Arg Lys Ile Leu Trp Ala
            180   185   190

Gly Glu Pro Leu Pro Pro Phe Val Ser Pro Pro Lys Phe Asp His Lys
            195   200   205

Glu Phe Asp Gln Pro Pro Phe Leu Ile Gly Glu Thr Asp Asn Val Glu
        210   215   220

Glu Arg Lys Lys Lys Thr Ile Val Val Met Leu Pro Leu Ser Thr Ser
225   230   235   240

Gln Leu Gln Lys Leu Arg Ser Lys Ala Asn Gly Ser Lys His Ser Asp
                245   250   255

Pro Ala Lys Gly Phe Thr Arg Tyr Glu Thr Val Thr Gly His Val Trp
            260   265   270

Arg Cys Ala Cys Lys Ala Arg Gly His Ser Pro Glu Gln Pro Thr Ala
        275   280   285

Leu Gly Ile Cys Ile Asp Thr Arg Ser Arg Met Glu Pro Pro Leu Pro
        290   295   300

Arg Gly Tyr Phe Gly Asn Ala Thr Leu Asp Val Val Ala Ala Ser Thr
305   310   315   320

Ser Gly Glu Leu Ile Ser Asn Glu Leu Gly Phe Ala Ala Ser Leu Ile
                325   330   335

Ser Lys Ala Ile Lys Asn Val Thr Asn Glu Tyr Val Met Ile Gly Ile
            340   345   350

Glu Tyr Leu Lys Asn Gln Lys Asp Leu Lys Lys Phe Gln Asp Leu His
        355   360   365

Ala Leu Gly Ser Thr Glu Gly Pro Phe Tyr Gly Asn Pro Asn Leu Gly
        370   375   380

Val Val Ser Trp Leu Thr Leu Pro Met Tyr Gly Leu Asp Phe Gly Trp
385   390   395   400

Gly Lys Glu Phe Tyr Thr Gly Pro Gly Thr His Asp Phe Asp Gly Asp
                405   410   415

Ser Leu Ile Leu Pro Asp Gln Asn Glu Asp Gly Ser Val Ile Leu Ala
            420   425   430

Thr Cys Leu Gln Val Ala His Met Glu Ala Phe Lys Lys His Phe Tyr
        435   440   445

Glu Asp Ile
    450

<210> 70
<211> 461

55

<212> PRT
<213> Arabidopsis thaliana

<400> 70
Met Ala Asn Gln Arg Lys Pro Ile Leu Pro Leu Leu Leu Glu Lys Lys
1   5   10   15

Pro Val Glu Leu Val Lys Pro Ser Lys His Thr His Cys Glu Thr Leu
            20   25   30

Ser Leu Ser Thr Leu Asp Asn Asp Pro Phe Asn Glu Val Met Tyr Ala
            35   40   45

Thr Ile Tyr Val Phe Lys Ala Asn Gly Lys Asn Leu Asp Asp Pro Val
        50   55   60

Ser Leu Leu Arg Lys Ala Leu Ser Glu Leu Leu Val His Tyr Tyr Pro
65   70   75   80

Leu Ser Gly Lys Leu Met Arg Ser Glu Ser Asn Gly Lys Leu Gln Leu
                85   90   95

Val Tyr Leu Gly Glu Gly Val Pro Phe Glu Val Ala Thr Ser Thr Leu
            100   105   110

Asp Leu Ser Ser Leu Asn Tyr Ile Glu Asn Leu Asp Asp Gln Val Ala
            115   120   125

Leu Arg Leu Val Pro Glu Ile Glu Ile Asp Tyr Glu Ser Asn Val Cys
        130   135   140

Tyr His Pro Leu Ala Leu Gln Val Thr Lys Phe Ala Cys Gly Gly Phe
145   150   155   160

Thr Ile Gly Thr Ala Leu Thr His Ala Val Cys Asp Gly Tyr Gly Val
                165   170   175

Ala Gln Ile Ile His Ala Leu Thr Glu Leu Ala Ala Gly Lys Thr Glu
                180   185   190

Pro Ser Val Lys Ser Val Trp Gln Arg Glu Arg Leu Val Gly Lys Ile
            195   200   205

Asp Asn Lys Pro Gly Lys Val Pro Gly Ser His Ile Asp Gly Phe Leu
        210   215   220

Ala Thr Ser Ala Tyr Leu Pro Thr Thr Asp Val Val Thr Glu Thr Ile
225   230   235   240

Asn Ile Arg Ala Gly Asp Ile Lys Arg Leu Lys Asp Ser Met Met Lys
                245   250   255

Glu Cys Glu Tyr Leu Lys Glu Ser Phe Thr Thr Tyr Glu Val Leu Ser
            260   265   270

Ser Tyr Ile Trp Lys Leu Arg Ser Arg Ala Leu Lys Leu Asn Pro Asp
        275   280   285

Gly Ile Thr Val Leu Gly Val Ala Val Gly Ile Arg His Val Leu Asp
        290   295   300

56

Pro Pro Leu Pro Lys Gly Tyr Tyr Gly Asn Ala Tyr Ile Asp Val Tyr
305   310   315   320

Val Glu Leu Thr Val Arg Glu Leu Glu Glu Ser Ser Ile Ser Asn Ile
                325   330   335

Ala Asn Arg Val Lys Lys Ala Lys Lys Thr Ala Tyr Glu Lys Gly Tyr
            340   345   350

Ile Glu Glu Glu Leu Lys Asn Thr Glu Arg Leu Met Arg Asp Asp Ser
        355   360   365

Met Phe Glu Gly Val Ser Asp Gly Leu Phe Phe Leu Thr Asp Trp Arg
    370   375   380

Asn Ile Gly Trp Phe Gly Ser Met Asp Phe Gly Trp Asn Glu Pro Val
385   390   395   400

Asn Leu Arg Pro Leu Thr Gln Arg Glu Ser Thr Val His Val Gly Met
            405   410   415

Ile Leu Lys Pro Ser Lys Ser Asp Pro Ser Met Glu Gly Gly Val Lys
            420   425   430

Val Ile Met Lys Leu Pro Arg Asp Ala Met Val Glu Phe Lys Arg Glu
        435   440   445

Met Ala Thr Met Lys Lys Leu Tyr Phe Gly Asp Thr Asn
    450   455   460

<210> 71
<211> 460
<212> PRT
<213> Nicotiana tabacum

<400> 71
Met Asp Ser Lys Gln Ser Ser Glu Leu Val Phe Thr Val Arg Arg Gln
  1   5   10   15

Lys Pro Glu Leu Ile Ala Pro Ala Lys Pro Thr Pro Arg Glu Thr Lys
            20   25   30

Phe Leu Ser Asp Ile Asp Asp Gln Glu Gly Leu Arg Phe Gln Ile Pro
        35   40   45

Val Ile Gln Phe Tyr His Lys Asp Ser Ser Met Gly Arg Lys Asp Pro
    50   55   60

Val Lys Val Ile Lys Lys Ala Ile Ala Glu Thr Leu Val Phe Tyr Tyr
65   70   75   80

Pro Phe Ala Gly Arg Leu Arg Glu Gly Asn Gly Arg Lys Leu Met Val
            85   90   95

Asp Cys Thr Gly Glu Gly Ile Met Phe Val Glu Ala Asp Ala Asp Val
            100   105   110

Thr Leu Glu Gln Phe Gly Asp Glu Leu Gln Pro Pro Phe Pro Cys Leu
        115   120   125

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Glu Glu Leu Leu Tyr Asp Val Pro Asp Ser Ala Gly Val Leu Asn Cys
    130             135             140

Pro Leu Leu Leu Ile Gln Val Thr Arg Leu Arg Cys Gly Gly Phe Ile
145             150             155             160

Phe Ala Leu Arg Leu Asn His Thr Met Ser Asp Ala Pro Gly Leu Val
                165             170             175

Gln Phe Met Thr Ala Val Gly Glu Met Ala Arg Gly Gly Ser Ala Pro
            180             185             190

Ser Ile Leu Pro Val Trp Cys Arg Glu Leu Leu Asn Ala Arg Asn Pro
        195             200             205

Pro Gln Val Thr Cys Thr His His Glu Tyr Asp Glu Val Arg Asp Thr
    210             215             220

Lys Gly Thr Ile Ile Pro Leu Asp Asp Met Val His Lys Ser Phe Phe
225             230             235             240

Phe Gly Pro Ser Glu Val Ser Ala Leu Arg Arg Phe Val Pro His His
            245             250             255

Leu Arg Lys Cys Ser Thr Phe Glu Leu Leu Thr Ala Val Leu Trp Arg
        260             265             270

Cys Arg Thr Met Ser Leu Lys Pro Asp Pro Glu Glu Glu Val Arg Ala
        275             280             285

Leu Cys Ile Val Asn Ala Arg Ser Arg Phe Asn Pro Pro Leu Pro Thr
    290             295             300

Gly Tyr Tyr Gly Asn Ala Phe Ala Phe Pro Val Ala Val Thr Thr Ala
305             310             315             320

Ala Lys Leu Ser Lys Asn Pro Leu Gly Tyr Ala Leu Glu Leu Val Lys
            325             330             335

Lys Thr Lys Ser Asp Val Thr Glu Glu Tyr Met Lys Ser Val Ala Asp
            340             345             350

Leu Met Val Leu Lys Gly Arg Pro His Phe Thr Val Val Arg Thr Phe
        355             360             365

Leu Val Ser Asp Val Thr Arg Gly Gly Phe Gly Glu Val Asp Phe Gly
    370             375             380

Trp Gly Lys Ala Val Tyr Gly Gly Pro Ala Lys Gly Gly Val Gly Ala
385             390             395             400

Ile Pro Gly Val Ala Ser Phe Tyr Ile Pro Phe Lys Asn Lys Lys Gly
            405             410             415

Glu Asn Gly Ile Val Val Pro Ile Cys Leu Pro Gly Phe Ala Met Glu
            420             425             430

Thr Phe Val Lys Glu Leu Asp Gly Met Leu Lys Val Asp Ala Pro Leu
        435             440             445

Val Asn Ser Asn Tyr Ala Ile Ile Arg Pro Ala Leu
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58

<210> 72
<211> 455
<212> PRT
<213> Cucumis melo

<400> 72

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Asp Phe Ser Phe His Val Arg Lys Cys Gln Pro Glu Leu Ile Ala Pro
 1               5                  10                  15

Ala Asn Pro Thr Pro Tyr Glu Phe Lys Gln Leu Ser Asp Val Asp Asp
            20                  25                  30

Gln Gln Ser Leu Arg Leu Gln Leu Pro Phe Val Asn Ile Tyr Pro His
        35                  40                  45

Asn Pro Ser Leu Glu Gly Arg Asp Pro Val Lys Val Ile Lys Glu Ala
    50                  55                  60

Ile Gly Lys Ala Leu Val Phe Tyr Tyr Pro Leu Ala Gly Arg Leu Arg
65                  70                  75                  80

Glu Gly Pro Gly Arg Lys Leu Phe Val Glu Cys Thr Gly Glu Gly Ile
                85                  90                  95

Leu Phe Ile Glu Ala Asp Ala Asp Val Ser Leu Glu Glu Phe Trp Asp
            100                 105                 110

Thr Leu Pro Tyr Ser Leu Ser Ser Met Gln Asn Asn Ile Ile His Asn
        115                 120                 125

Ala Leu Asn Ser Asp Glu Val Leu Asn Ser Pro Leu Leu Leu Ile Gln
    130                 135                 140

Val Thr Arg Leu Lys Cys Gly Gly Phe Ile Phe Gly Leu Cys Phe Asn
145                 150                 155                 160

His Thr Met Ala Asp Gly Phe Gly Ile Val Gln Phe Met Lys Ala Thr
                165                 170                 175

Ala Glu Ile Ala Arg Gly Ala Phe Ala Pro Ser Ile Leu Pro Val Trp
            180                 185                 190

Gln Arg Ala Leu Leu Thr Ala Arg Asp Pro Pro Arg Ile Thr Phe Arg
        195                 200                 205

His Tyr Glu Tyr Asp Gln Val Val Asp Met Lys Ser Gly Leu Ile Pro
    210                 215                 220

Val Asn Ser Lys Ile Asp Gln Leu Phe Phe Phe Ser Gln Leu Gln Ile
225                 230                 235                 240

Ser Thr Leu Arg Gln Thr Leu Pro Ala His Leu His Asp Cys Pro Ser
                245                 250                 255

Phe Glu Val Leu Thr Ala Tyr Val Trp Arg Leu Arg Thr Ile Ala Leu
                260                 265                 270

Gln Phe Lys Pro Glu Glu Glu Val Arg Phe Leu Cys Val Met Asn Leu
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59

Arg Ser Lys Ile Asp Ile Pro Leu Gly Tyr Tyr Gly Asn Ala Val Val
290 295 300

Val Pro Ala Val Ile Thr Thr Ala Ala Lys Leu Cys Gly Asn Pro Leu
305 310 315 320

Gly Tyr Ala Val Asp Leu Ile Arg Lys Ala Lys Ala Lys Ala Thr Met
325 330 335

Glu Tyr Ile Lys Ser Thr Val Asp Leu Met Val Ile Lys Gly Arg Pro
340 345 350

Tyr Phe Thr Val Val Gly Ser Phe Met Met Ser Asp Leu Thr Arg Ile
355 360 365

Gly Val Glu Asn Val Asp Phe Gly Trp Gly Lys Ala Ile Phe Gly Gly
370 375 380

Pro Thr Thr Thr Gly Ala Arg Ile Thr Arg Gly Leu Val Ser Phe Cys
385 390 395 400

Val Pro Phe Met Asn Arg Asn Gly Glu Lys Gly Thr Ala Leu Ser Leu
405 410 415

Cys Leu Pro Pro Pro Ala Met Glu Arg Phe Arg Ala Asn Val His Ala
420 425 430

Ser Leu Gln Val Lys Gln Val Val Asp Ala Val Asp Ser His Met Gln
435 440 445

Thr Ile Gln Ser Ala Ser Lys
450 455

<210> 73
<211> 445
<212> PRT
<213> Arabidopsis thaliana

<400> 73
Met Ser Ile Gln Ile Lys Gln Ser Thr Met Val Arg Pro Ala Glu Glu
1 5 10 15

Thr Pro Asn Lys Ser Leu Trp Leu Ser Asn Ile Asp Met Ile Leu Arg
20 25 30

Thr Pro Tyr Ser His Thr Gly Ala Val Leu Ile Tyr Lys Gln Pro Asp
35 40 45

Asn Asn Glu Asp Asn Ile His Pro Ser Ser Ser Met Tyr Phe Asp Ala
50 55 60

Asn Ile Leu Ile Glu Ala Leu Ser Lys Ala Leu Val Pro Phe Tyr Pro
65 70 75 80

Met Ala Gly Arg Leu Lys Ile Asn Gly Asp Arg Tyr Glu Ile Asp Cys
85 90 95

Asn Ala Glu Gly Ala Leu Phe Val Glu Ala Glu Ser Ser His Val Leu

Glu Asp Phe Gly Asp Phe Arg Pro Asn Asp Glu Leu His Arg Val Met
            115   120   125

Val Pro Thr Cys Asp Tyr Ser Lys Gly Ile Ser Ser Phe Pro Leu Leu
      130   135   140

Met Val Gln Leu Thr Arg Phe Arg Cys Gly Gly Val Ser Ile Gly Phe
145   150   155   160

Ala Gln His His His Val Cys Asp Gly Met Ala His Phe Glu Phe Asn
            165   170   175

Asn Ser Trp Ala Arg Ile Ala Lys Gly Leu Leu Pro Ala Leu Glu Pro
            180   185   190

Val His Asp Arg Tyr Leu His Leu Arg Pro Arg Asn Pro Pro Gln Ile
            195   200   205

Lys Tyr Ser His Ser Gln Phe Glu Pro Phe Val Pro Ser Leu Pro Asn
      210   215   220

Glu Leu Leu Asp Gly Lys Thr Asn Lys Ser Gln Thr Leu Phe Ile Leu
225   230   235   240

Ser Arg Glu Gln Ile Asn Thr Leu Lys Gln Lys Leu Asp Leu Ser Asn
            245   250   255

Asn Thr Thr Arg Leu Ser Thr Tyr Glu Val Val Ala Ala His Val Trp
            260   265   270

Arg Ser Val Ser Lys Ala Arg Gly Leu Ser Asp His Glu Glu Ile Lys
            275   280   285

Leu Ile Met Pro Val Asp Gly Arg Ser Arg Ile Asn Asn Pro Ser Leu
      290   295   300

Pro Lys Gly Tyr Cys Gly Asn Val Val Phe Leu Ala Val Cys Thr Ala
305   310   315   320

Thr Val Gly Asp Leu Ser Cys Asn Pro Leu Thr Asp Thr Ala Gly Lys
            325   330   335

Val Gln Glu Ala Leu Lys Gly Leu Asp Asp Asp Tyr Leu Arg Ser Ala
            340   345   350

Ile Asp His Thr Glu Ser Lys Pro Gly Leu Pro Val Pro Tyr Met Gly
            355   360   365

Ser Pro Glu Lys Thr Leu Tyr Pro Asn Val Leu Val Asn Ser Trp Gly
      370   375   380

Arg Ile Pro Tyr Gln Ala Met Asp Phe Gly Trp Gly Ser Pro Thr Phe
385   390   395   400

Phe Gly Ile Ser Asn Ile Phe Tyr Asp Gly Gln Cys Phe Leu Ile Pro
            405   410   415

Ser Arg Asp Gly Asp Gly Ser Met Thr Leu Ala Ile Asn Leu Phe Ser
            420   425   430

61

Ser His Leu Ser Arg Phe Lys Lys Tyr Phe Tyr Asp Phe
        435   440   445

<210> 74
<211> 446
<212> PRT
<213> Arabidopsis thaliana

<400> 74
Met Glu Thr Met Thr Met Lys Val Glu Thr Ile Ser Lys Glu Ile Ile
  1   5   10   15

Lys Pro Ser Ser Pro Thr Pro Asn Asn Leu Gln Thr Leu Gln Leu Ser
                20   25   30

Ile Tyr Asp His Ile Leu Pro Pro Val Tyr Thr Val Ala Phe Leu Phe
            35   40   45

Tyr Thr Lys Asn Asp Leu Ile Ser Gln Glu His Thr Ser His Lys Leu
        50   55   60

Lys Thr Ser Leu Ser Glu Thr Leu Thr Lys Phe Tyr Pro Leu Ala Gly
 65   70   75   80

Arg Ile Thr Gly Val Thr Val Asp Cys Thr Asp Glu Gly Ala Ile Phe
                85   90   95

Val Asp Ala Arg Val Asn Asn Cys Pro Leu Thr Glu Phe Leu Lys Cys
            100   105   110

Pro Asp Phe Asp Ala Leu Gln Gln Leu Leu Pro Leu Asp Val Val Asp
            115   120   125

Asn Pro Tyr Val Ala Ala Ala Thr Trp Pro Leu Leu Leu Val Lys Ala
        130   135   140

Thr Tyr Phe Gly Cys Gly Gly Met Ala Ile Gly Ile Cys Ile Thr His
145   150   155   160

Lys Ile Ala Asp Ala Ala Ser Ile Ser Thr Phe Ile Arg Ser Trp Ala
                165   170   175

Ala Thr Ala Arg Gly Glu Asn Asp Ala Ala Ala Met Glu Ser Pro Val
                180   185   190

Phe Ala Gly Ala Asn Phe Tyr Pro Pro Ala Asn Glu Ala Phe Lys Leu
            195   200   205

Pro Ala Asp Glu Gln Ala Gly Lys Arg Ser Ser Ile Thr Lys Arg Phe
    210   215   220

Val Phe Glu Ala Ser Lys Val Glu Asp Leu Arg Thr Lys Ala Ala Ser
225   230   235   240

Glu Glu Thr Val Asp Gln Pro Thr Arg Val Glu Ser Val Thr Ala Leu
                245   250   255

Ile Trp Lys Cys Phe Val Ala Ser Ser Lys Thr Thr Thr Cys Asp His
            260   265   270

62

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Lys Val Leu Val Gln Leu Ala Asn Leu Arg Ser Lys Ile Pro Ser Leu
        275                 280                 285

Leu Gln Glu Ser Ser Ile Gly Asn Leu Met Phe Ser Ser Val Val Leu
        290                 295                 300

Ser Ile Gly Arg Gly Gly Glu Val Lys Ile Glu Glu Ala Val Arg Asp
305                 310                 315                 320

Leu Arg Lys Lys Lys Glu Glu Leu Gly Thr Val Ile Leu Asp Glu Gly
            325                 330                 335

Gly Ser Ser Asp Ser Ser Ser Met Ile Gly Ser Lys Leu Ala Asn Leu
            340                 345                 350

Met Leu Thr Asn Tyr Ser Arg Leu Ser Tyr Glu Thr His Glu Pro Tyr
        355                 360                 365

Thr Val Ser Ser Trp Cys Lys Leu Pro Leu Tyr Glu Ala Ser Phe Gly
        370                 375                 380

Trp Asp Ser Pro Val Trp Val Val Gly Asn Val Ser Pro Val Leu Gly
385                 390                 395                 400

Asn Leu Ala Met Leu Ile Asp Ser Lys Asp Gly Gln Gly Ile Glu Ala
            405                 410                 415

Phe Val Thr Leu Pro Glu Glu Asn Met Ser Ser Phe Glu Gln Asn Pro
            420                 425                 430

Glu Leu Leu Ala Phe Ala Thr Met Asn Pro Ser Val Leu Val
            435                 440                 445
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